Power Platform App in a Day

Module 4: Microsoft Flow

Hands-on Lab Step-by-Step

September 2018

Contents

Microsoft Flow

Lab Prerequisites

This is the fourth lab in a five-part series covering PowerApps, Common Data Service, and Flow. The assumption is that you have successfully completed the first three modules, or at least the initial part of setting up an environment as described in the overview – "**00-AppInADay Lab Overview.pdf**".

If you have not completed the previous modules, you can use the partially completed version of the lab package in the "\Completed\Module3" folder. Follow the instructions in the document "Importing Module 3 Completed" before proceeding with this module, which will provision the app and the Common Data Service entity into your environment.

Locale-specific differences in formulas

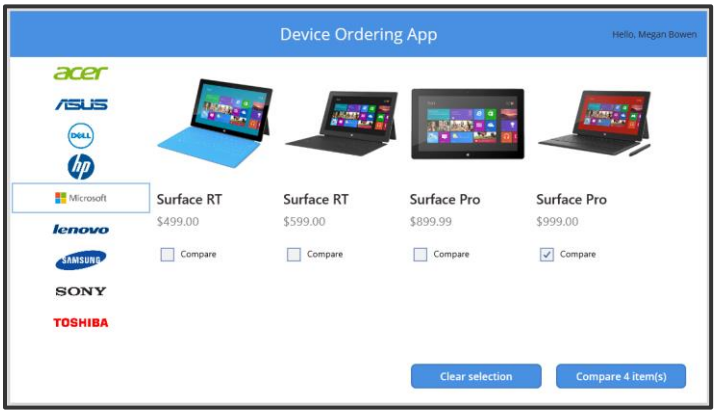
If your computer has its regional settings set to use the comma ',' for its decimal separator (like in much of Europe) your formulas will need to use a semicolon ';' instead of a comma. In this document, the location icon is used to indicate the alternate version of a function, to be used for European locales.

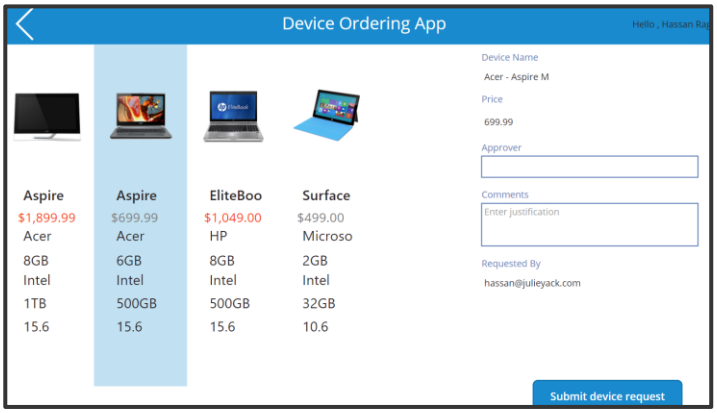
En-US	`Filter(Machines, OEMsGallery.Selected.MFR=MFR)`
de-DE	`Filter(Machines; OEMsGallery.Selected.MFR=MFR)`

Integrating a PowerApps App with Flow

In this lab, you will create a Flow that uses the Modern Approvals service to automate the approval workflow – it will send an email to the selected approver and take an action based on their response.

You should already have an app with these two screens:





Exercise 1: Create Approval Request Flow

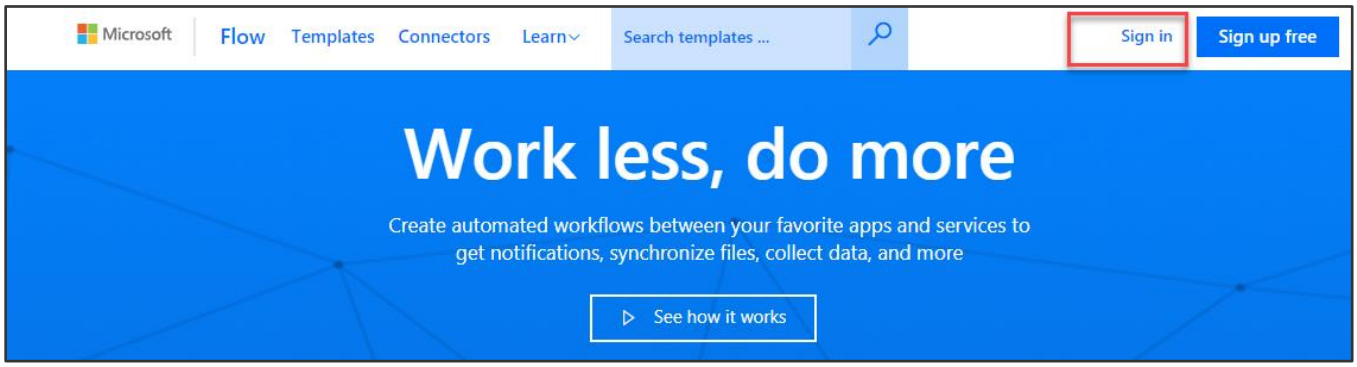
The flow will trigger when a new item is added to the **Device Order** entity table in the Common Data Service.

- It will use the Approvals Service to send an approval request.
- The approver will receive an email with options to Approve or Rejects and add comments.
- Once the approver responds, the record in the Device Order table will be updated with the appropriate approval status and comments.
- An email will be sent to the requester informing them whether the device was approved or rejected.

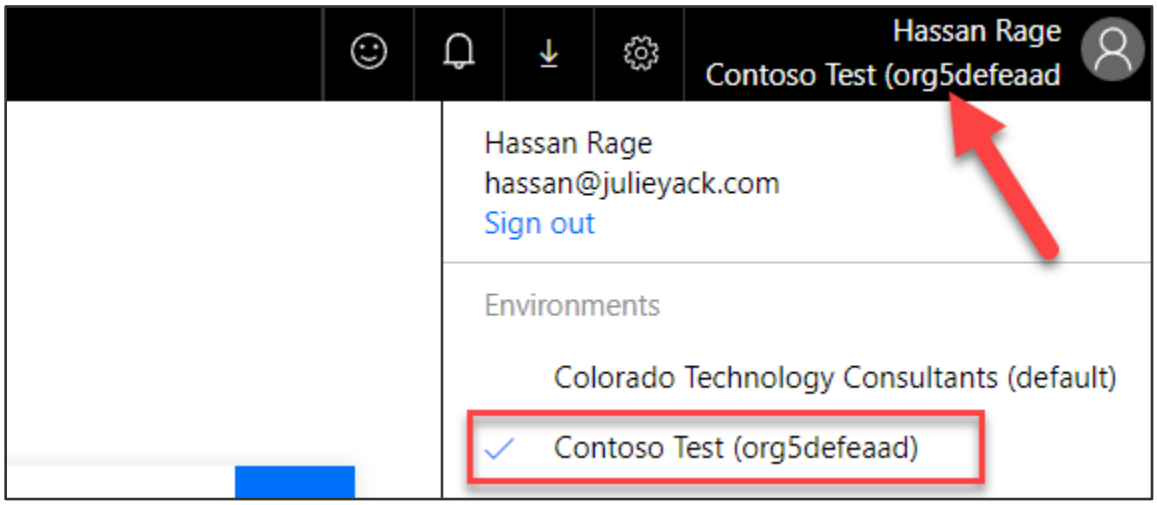
There are two ways to create a flow – from blank or from a template. In this lab, we will create the approval flow starting with a blank flow.

Task 1: Login on Microsoft Flow website and create flow

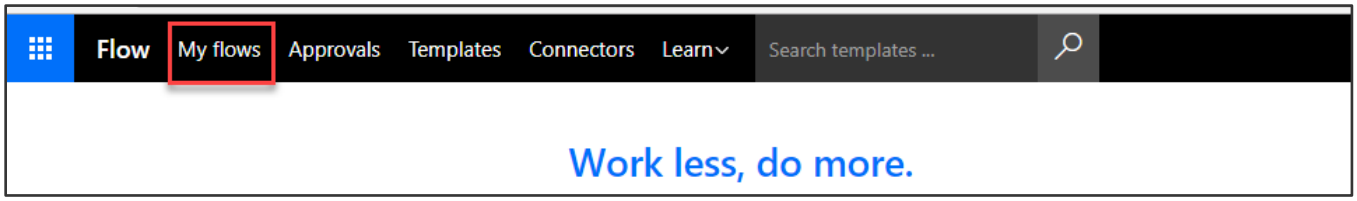
1. Navigate to http://flow.microsoft.com and sign in with your work or school account.



2. **Switch to the environment** where you created the Common Data Service database and the PowerApps app. To switch environments, click the top right of the screen that displays the username and current environment name.



3. Select **My flows**.



4. Select **Create from blank**

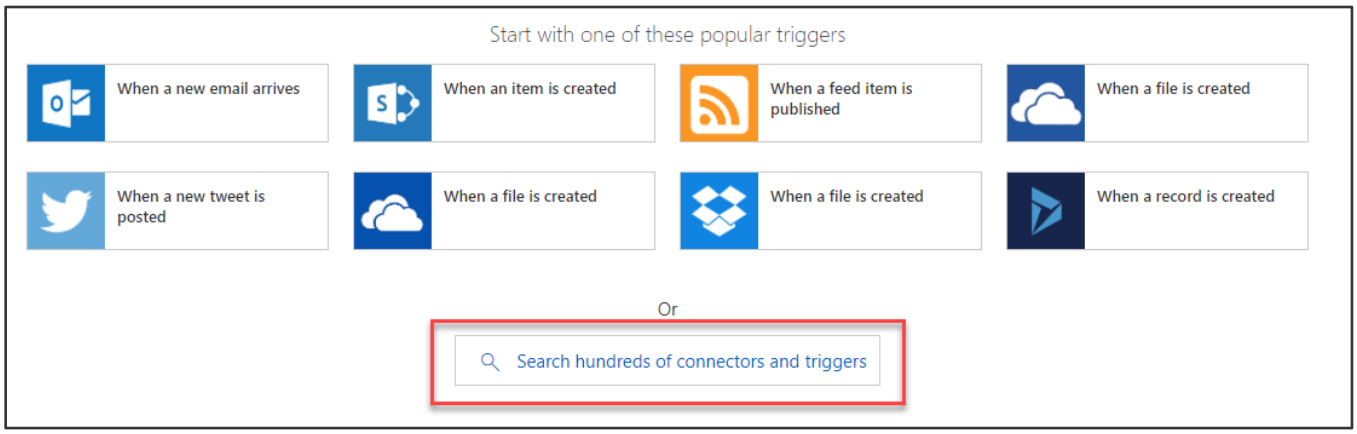
Task 2: Configure the trigger

The first thing you will need to configure is the trigger, i.e. when should this flow run. A flow can be triggered:

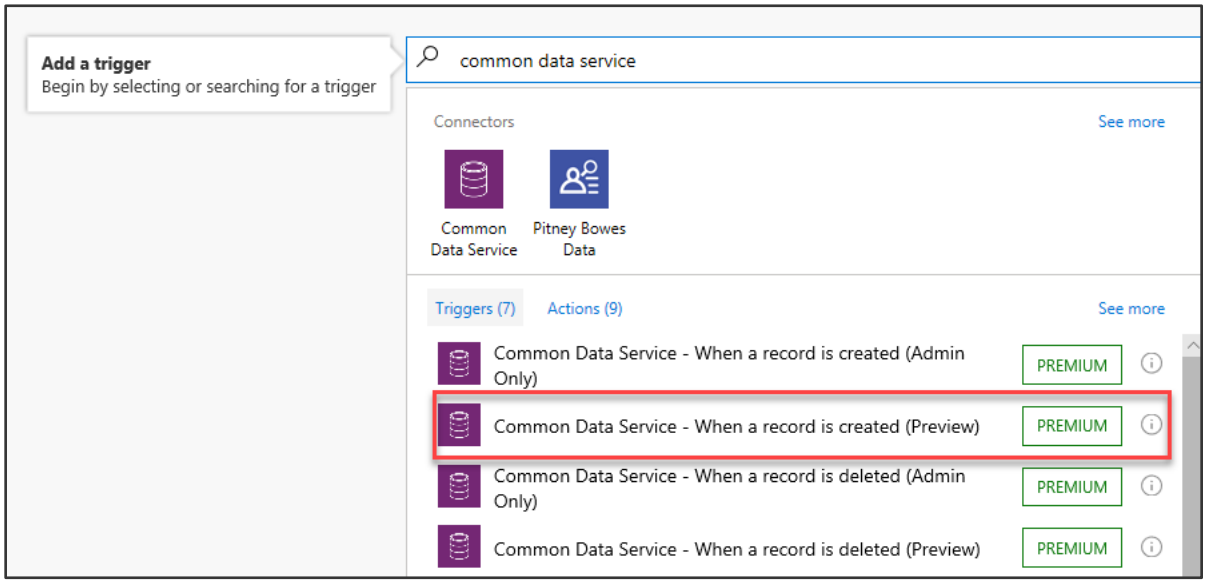
a. manually from a PowerApps app,
b. manually from a flow button
c. on a fixed schedule, or
d. when an event occurs, such as a new item being added to a table, a new email arriving in a user's inbox, a new tweet being posted that meets certain conditions, etc.

In this scenario, we will configure the flow to trigger when a **new item is added** to the **Device Order entity** table in the **Common Data Service**

1. On the screen to select a trigger, click the **Search hundreds of connectors and triggers** option.

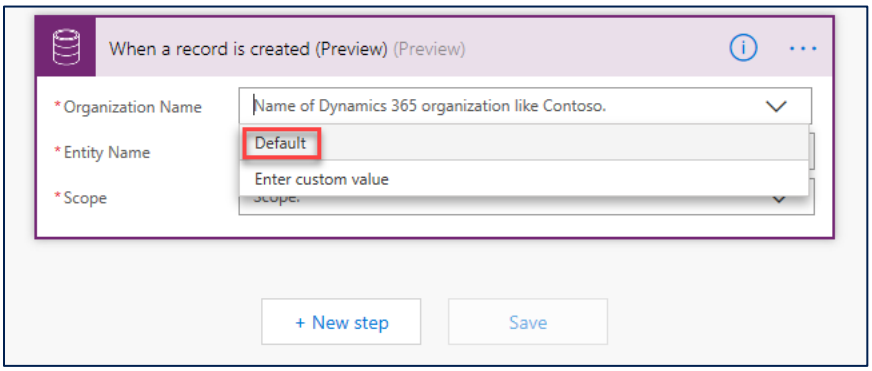


2. Search for **Common Data Service** and select **Common Data Service – When a record is created.**

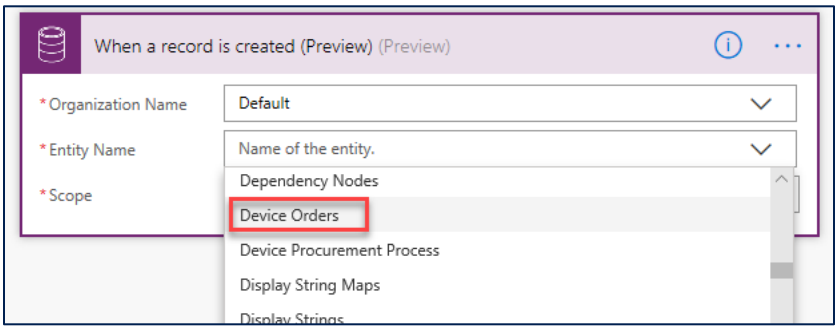


Note: Make sure you select the one that says (Preview) not the one that says (Admin). The Admin one requires Entity Change Tracking to be enabled on the entity before it will work, the preview one does not.

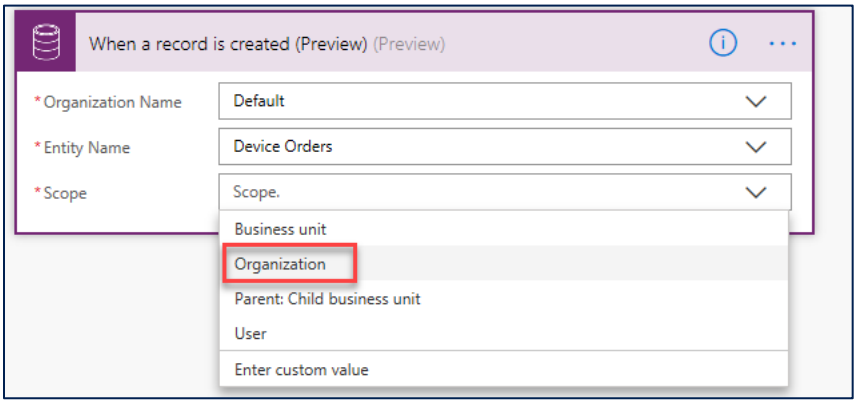
3. Click the **Organization Name** drop-down and select **Default**.



4. Click the **Entity Name** drop-down and select **Device Orders**. You can type "device orders" to search for it.

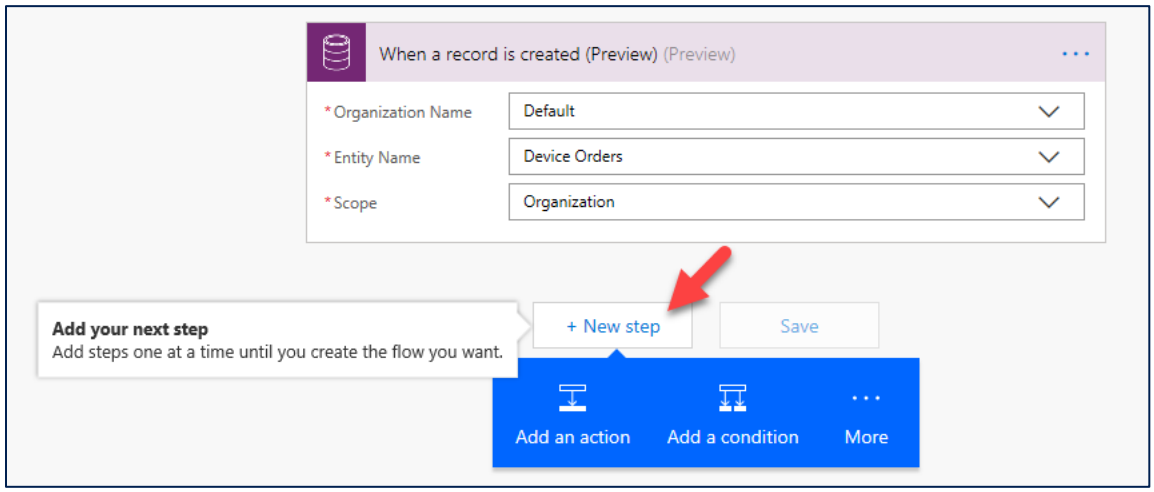


5. Click the **Scope** drop-down and select **Organization**. Scope allows you to limit when your flow will run, for example you could choose User and it would only run for orders you create. In this case you are choosing organization because you want this flow to run for records created by anyone in your entire organization.

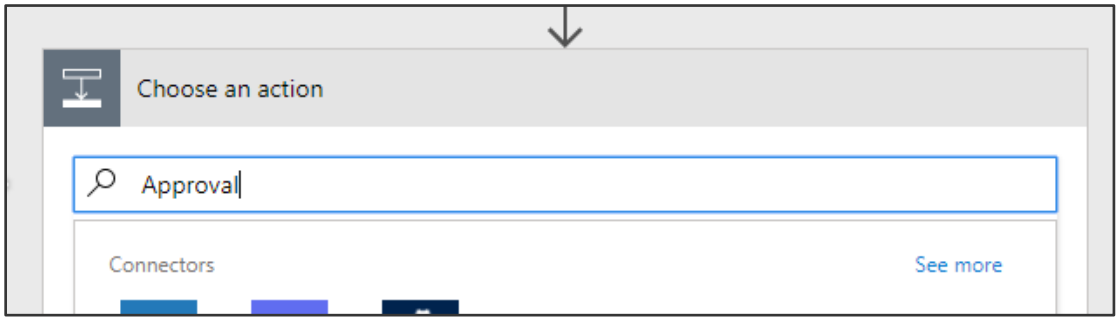


Task 3: Add action to send an approval request

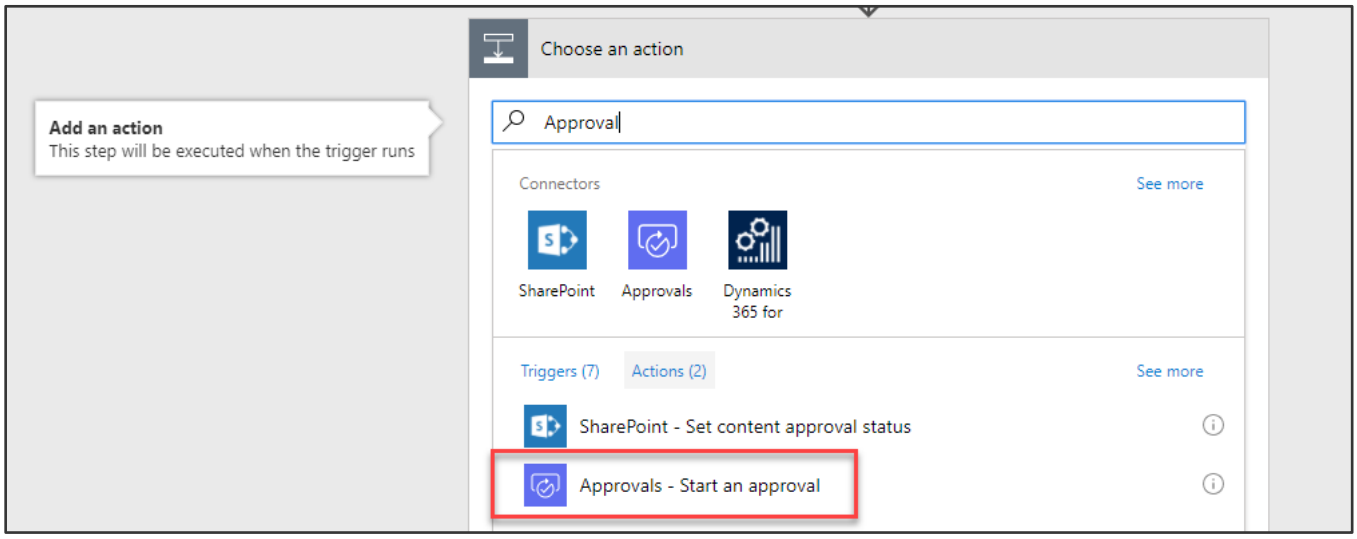
1. Click **+ New step** and select **Add an action**



2. Search for **Approval**.

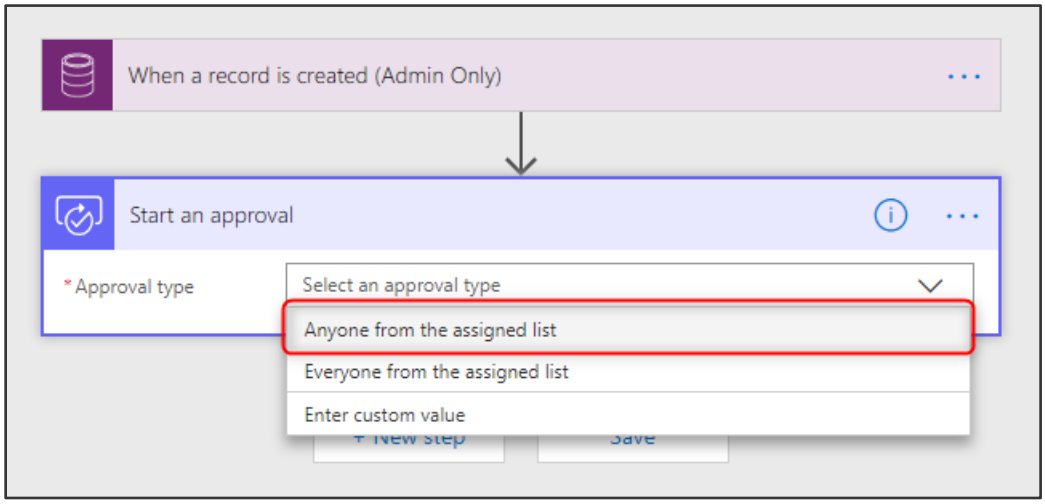


3. Select **Approvals – Start an approval**.

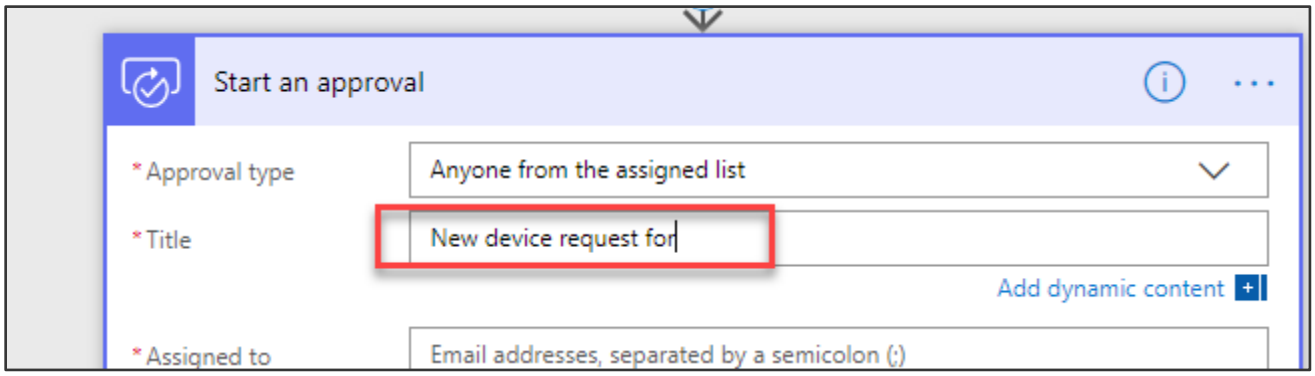


This will use the modern approval service. For more information see the blog post at https://flow.microsoft.com/blog/introducing-modern-approvals/.

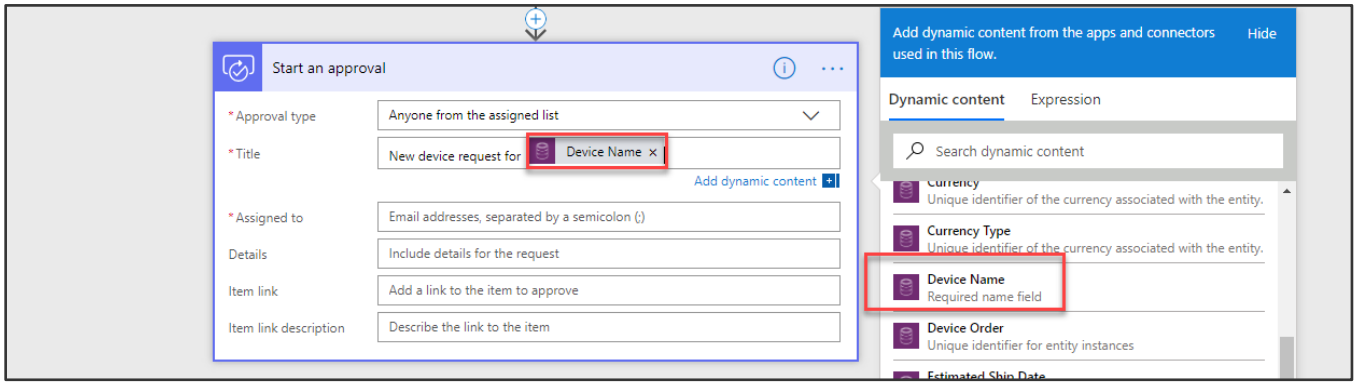
4. Select **Anyone from the assigned list** for **Approval type**.



5. For the Title, we will add some text and one variable. This variable will contain the Device Name of the device order request. Enter ***New device request for*** in the **Title** text box.

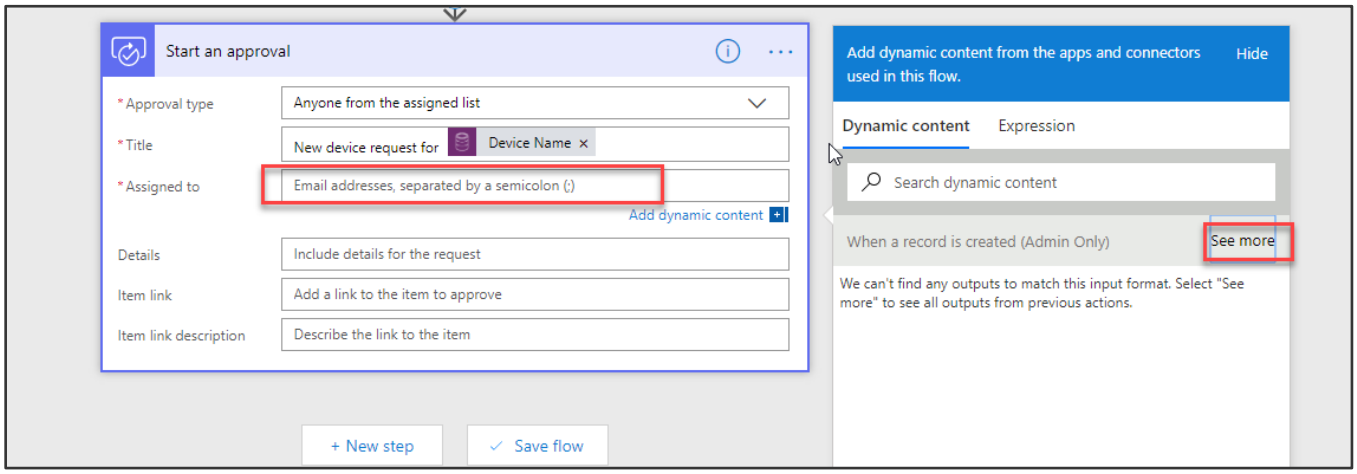


6. Select **Device Name** for the **Dynamic content.**

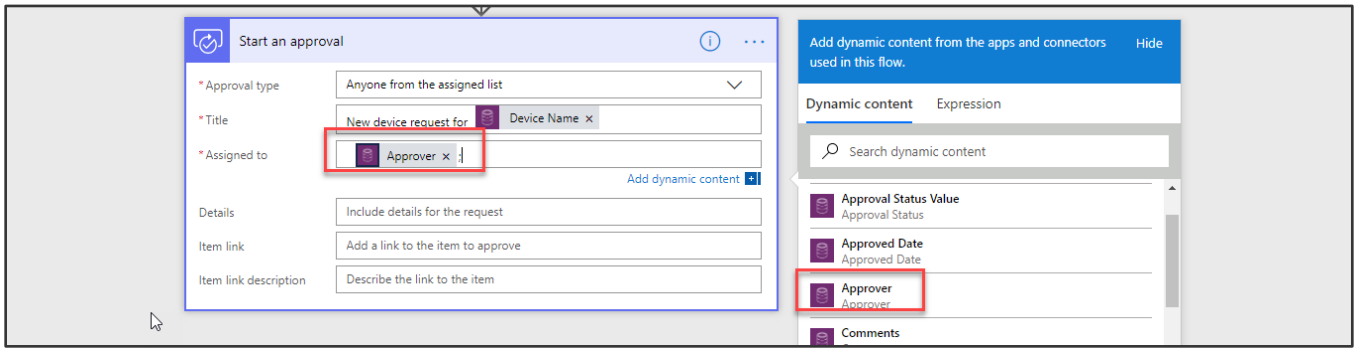


***Note**: if the Dynamic content box is not visible, click the Add dynamic content button -* 

7. Select the **Assigned to** field, and from the **Dynamic content,** click See More.



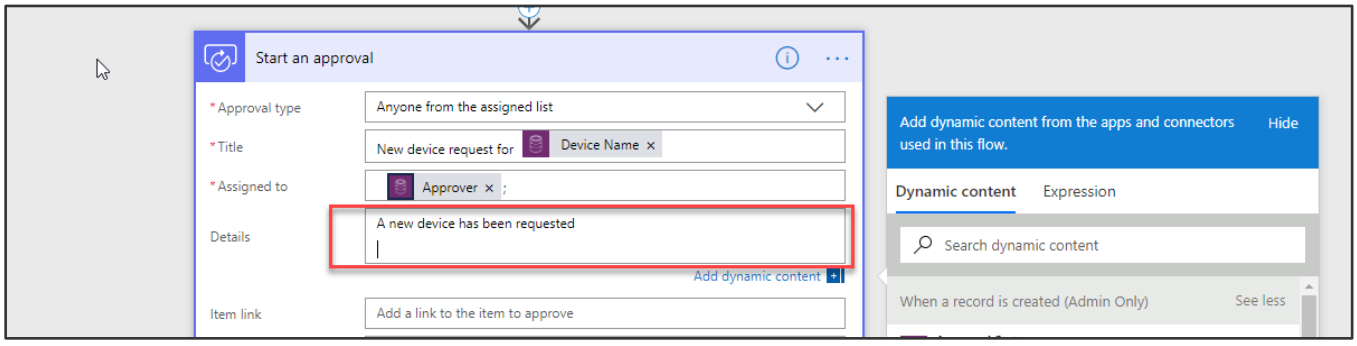
8. Select **Approver**



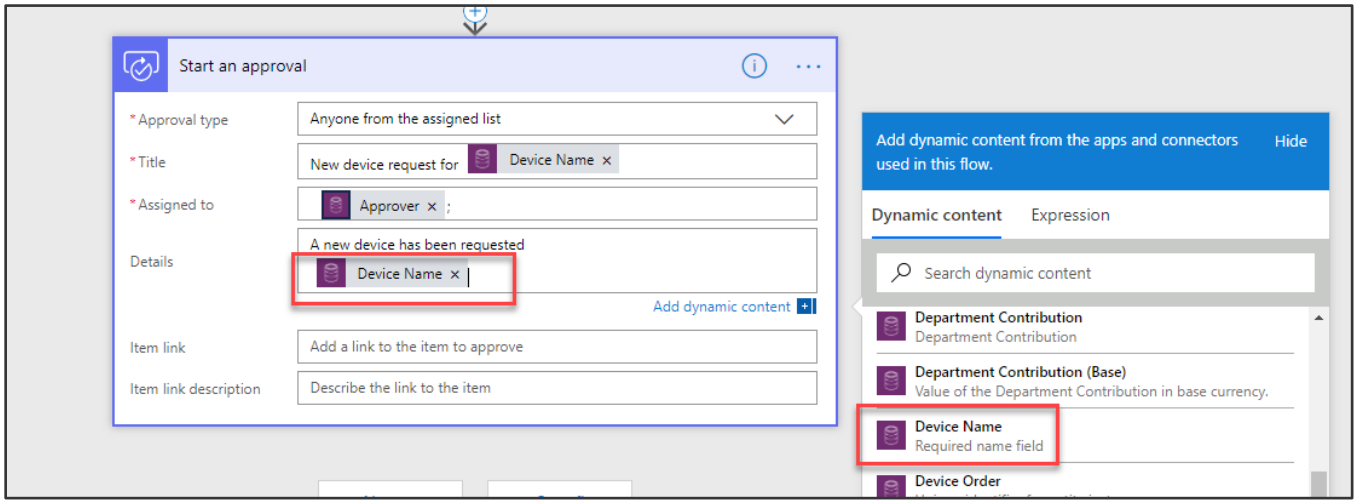
You might get a warning message about this field being optional. Ignore it and ignore similar warnings in future.

***Note**: Recall from the earlier lab that this will be the approver's email address*.

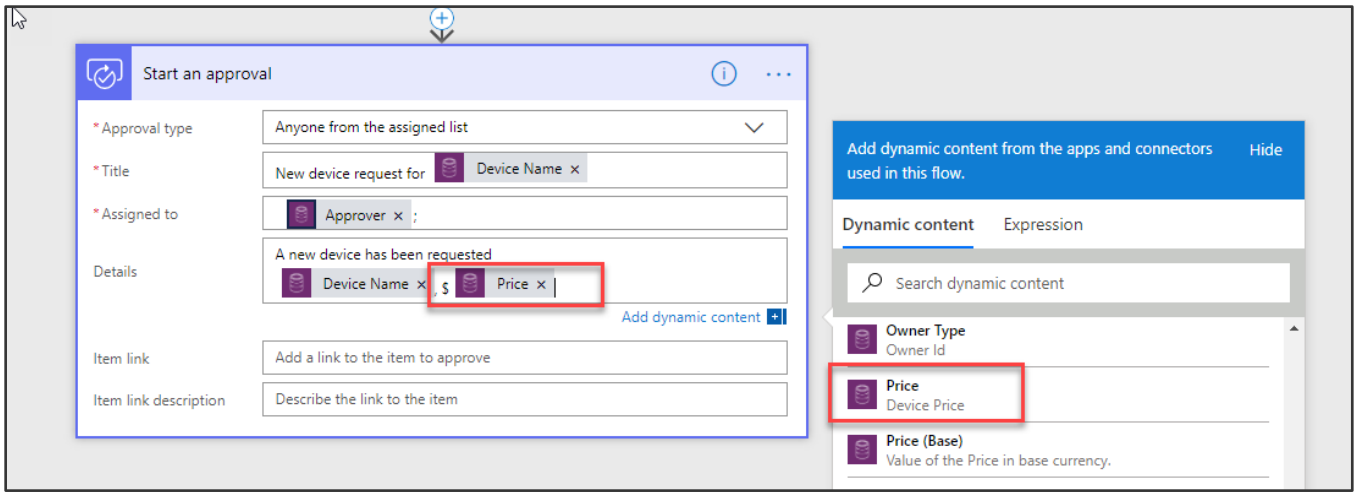
9. In the **Details** field, type ***A new device has been requested*** and hit <Enter>.



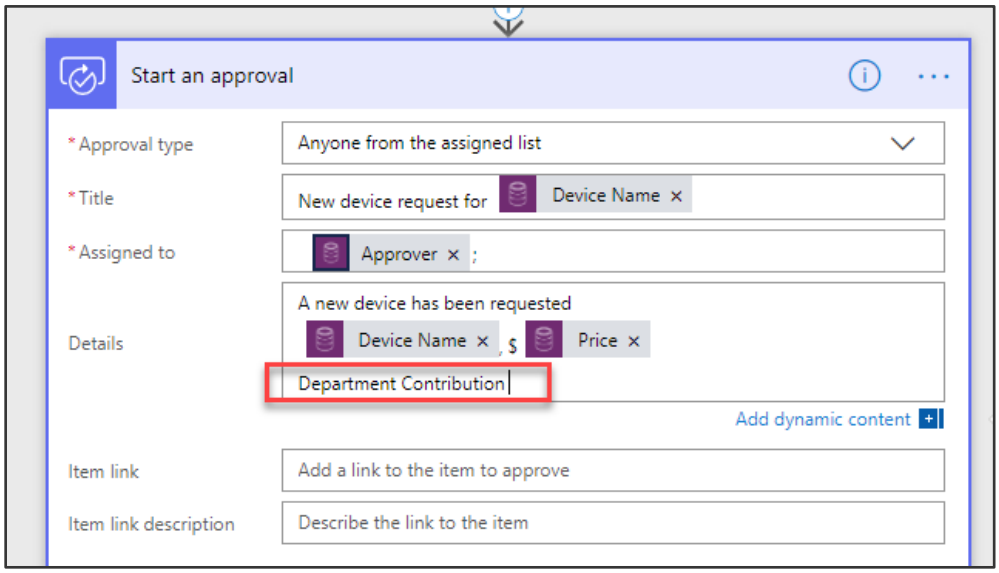
10. Select **Device Name** from the Dynamic content pane.



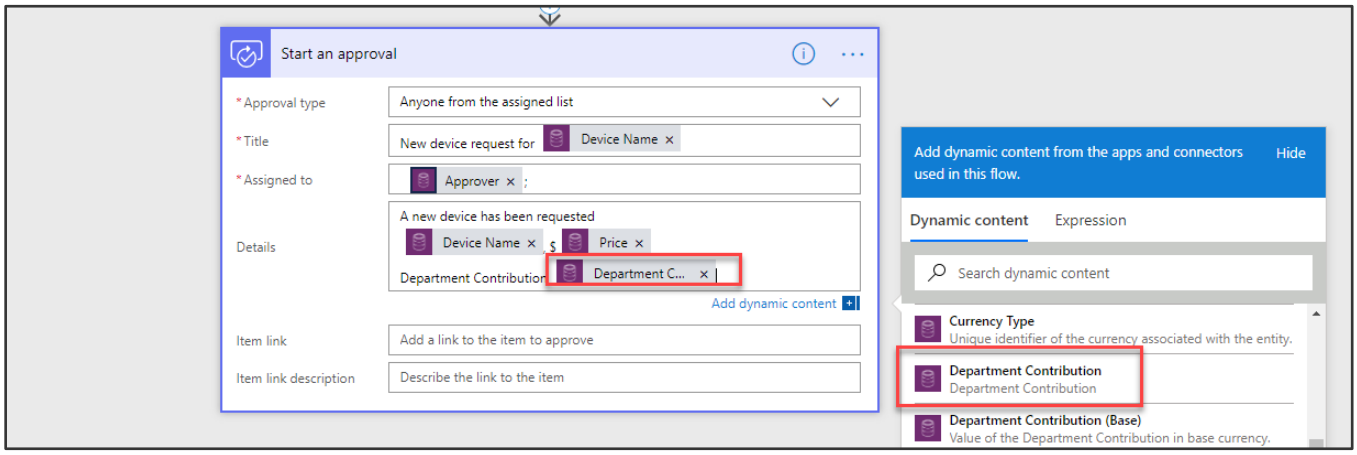
11. Type**, *$*** and select **Price.** You may need to click the **"See More"** option under the dynamic content search bar in order to see the Price option.



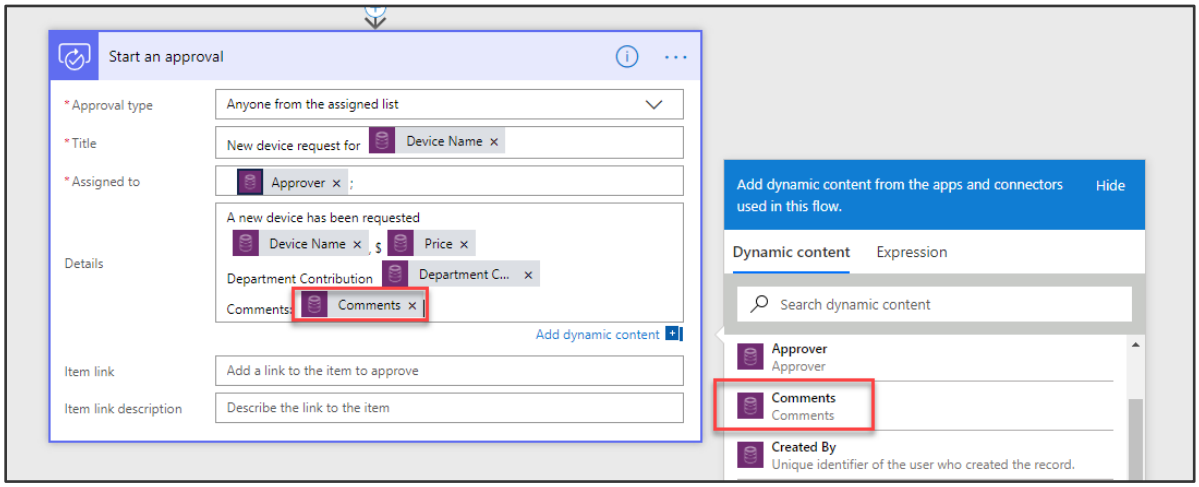
12. Hit Enter and type ***Department Contribution***



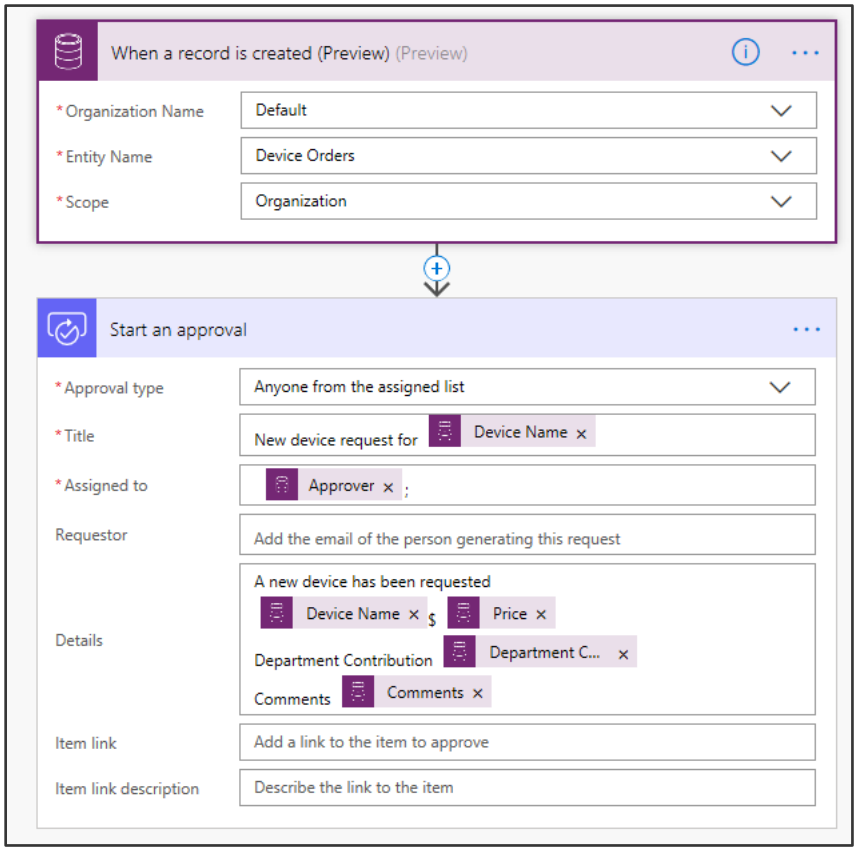
13. Select **Department Contribution**.



14. Hit <Return>, type ***Comments:*** and select **Comments**.



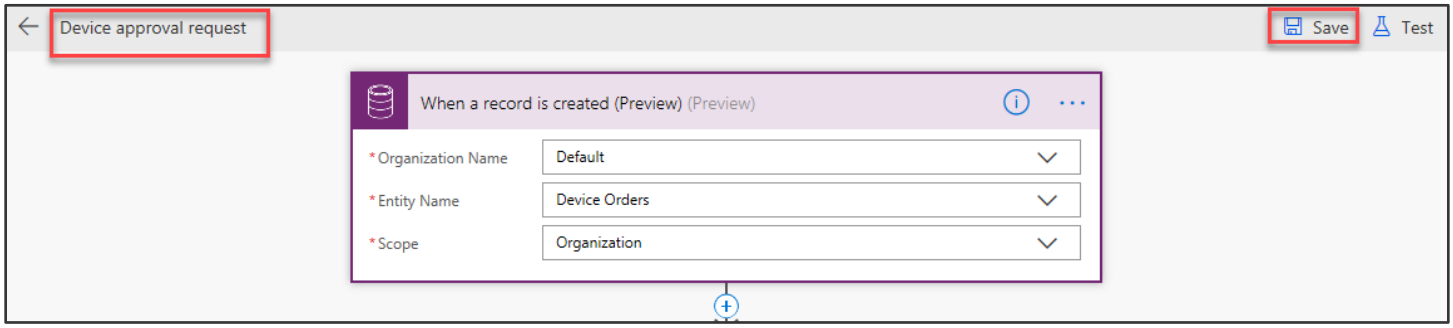
15. Your **Action** will now look like the image below.



***Note**: When creating your own approval flows, you may additionally include a clickable link that will be displayed in the approval email. In this scenario, for example, you could include a link to view device details in an online catalogue. You would include the **Item link** and **Item link description**.*

***Note**: You could also set the **Item link** to deep link into a PowerApps app to view more details about the request. In this scenario, you might pass an OrderID or a DeviceID as a URL parameter. PowerApps accepts URL parameters, see https://powerapps.microsoft.com/tutorials/function-param/ for more details.*

16. Change the **flow** name to **Device approval request** and click **Save**.

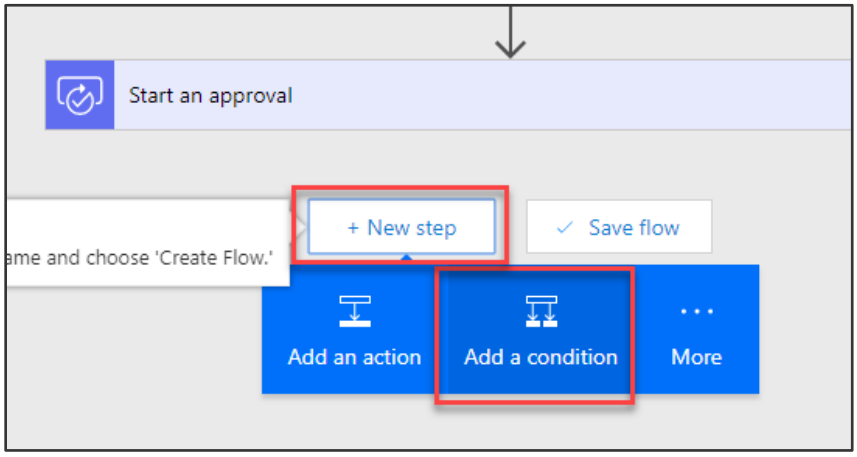


Exercise 2: Conditional Logic

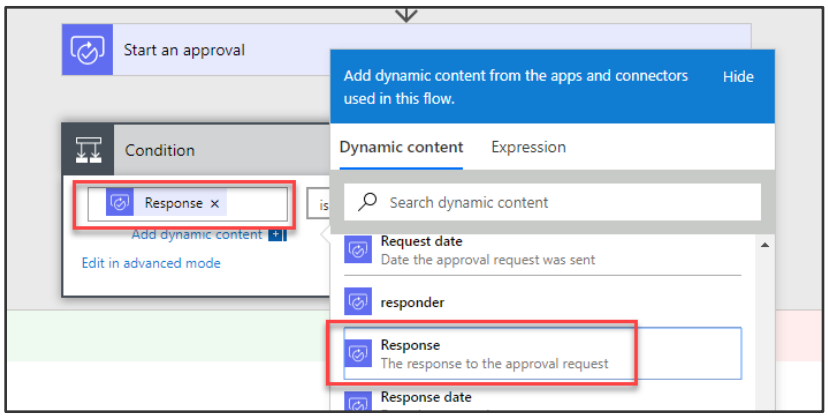
In flow, you can add conditions to take different actions depending on a certain result, in this case, whether the request was approved or rejected.

Task 1: Add conditional logic to flow

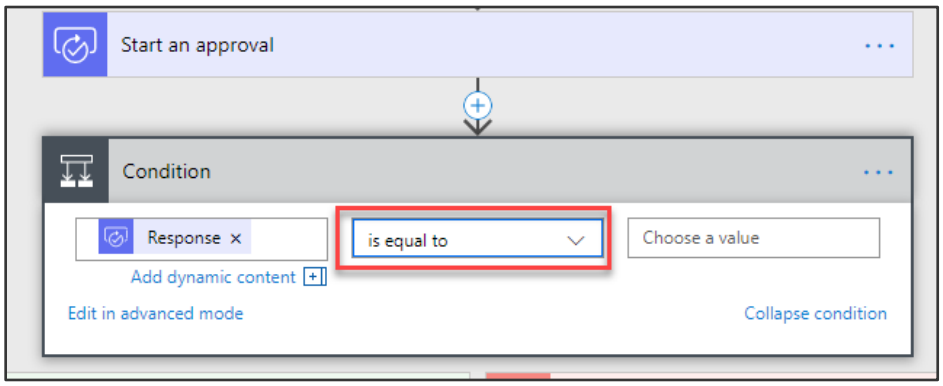
1. Click **+ New step** and select **Add acCondition**.



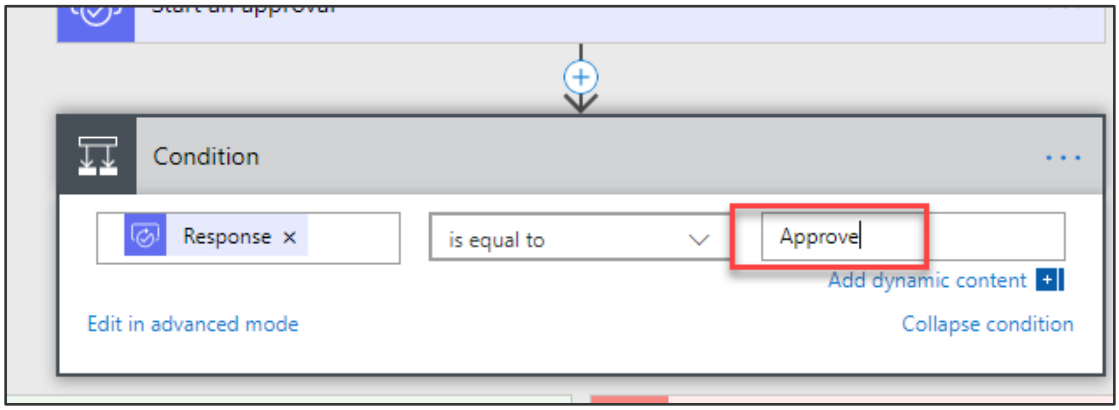
2. Click in the left edit box that says, "Choose a value" and select **Response** from the dynamic content pane. You may need to press the "+" icon below the edit box to hide the dynamic content pane.



3. Select **is equal to** for condition.



4. Type Approve for value.



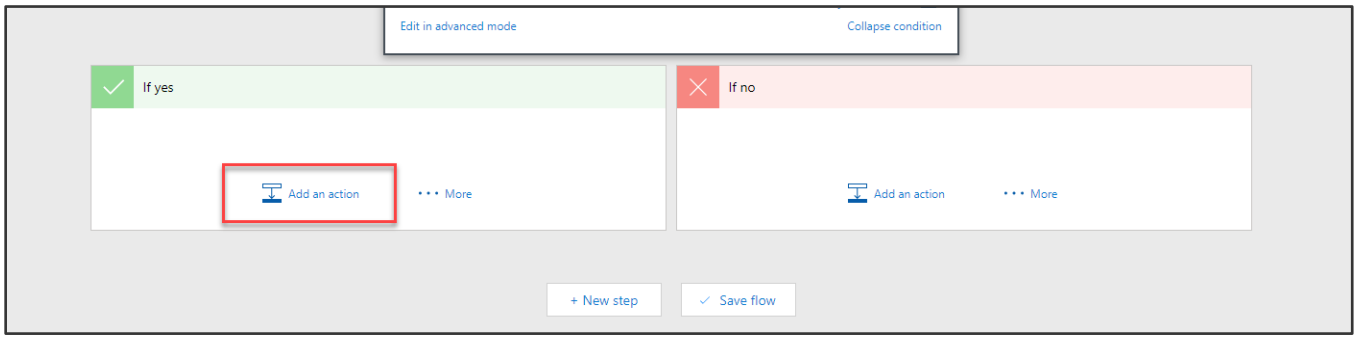
Task 2: Add conditional logic to flow

We will now configure what actions to perform if the response is approved or not – YES branch vs. NO branch.

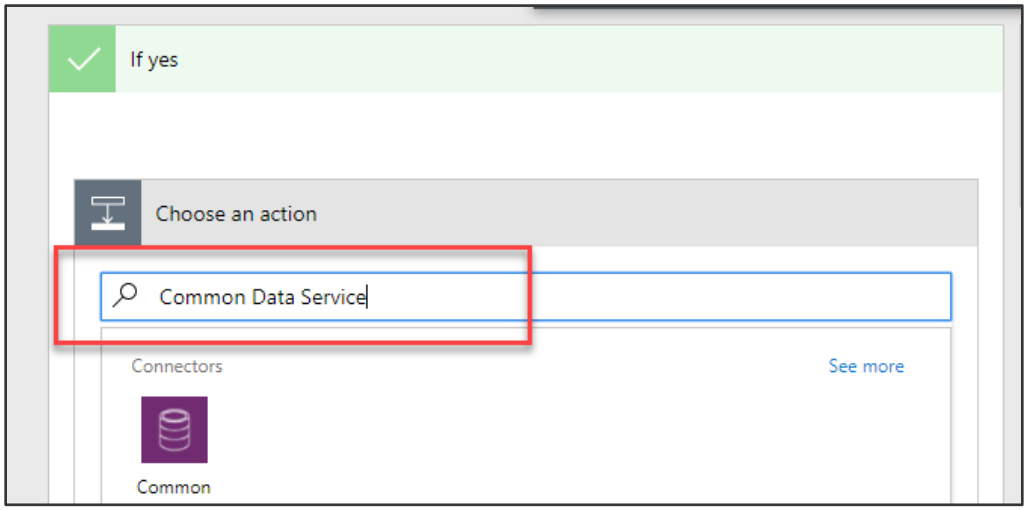
We will add two actions:

a. Update the record in the Device Order table
b. Send an email to the employee who requested the device

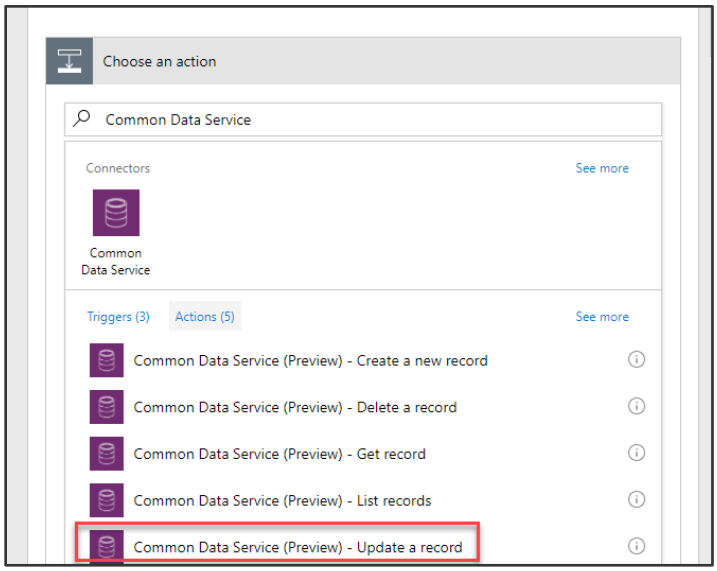
1. In the left **If yes** box, click **Add an action**



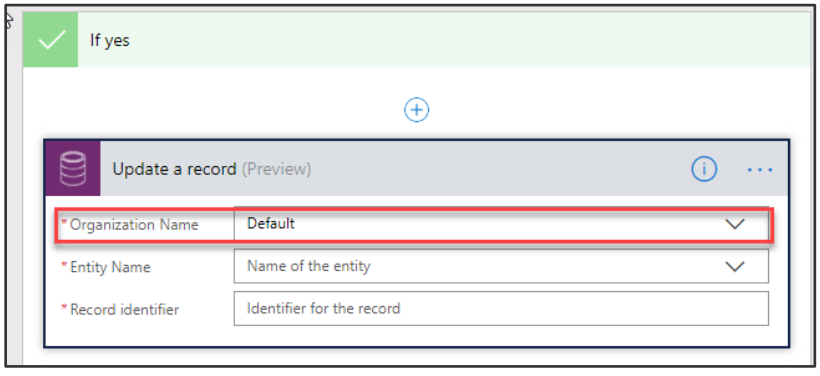
2. Search for **Common Data Service.**



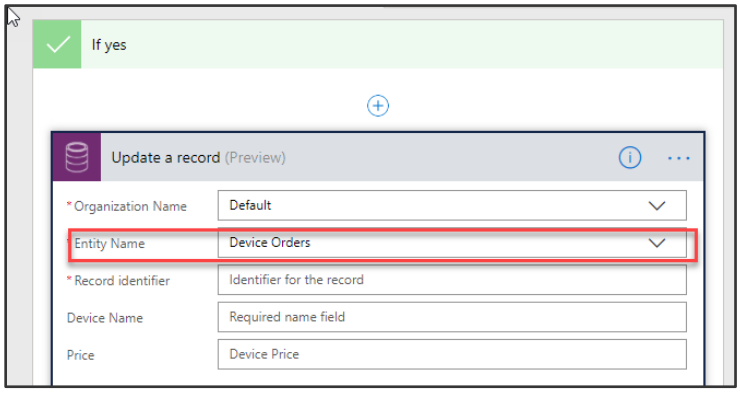
3. Select Common Data Service – Update a record



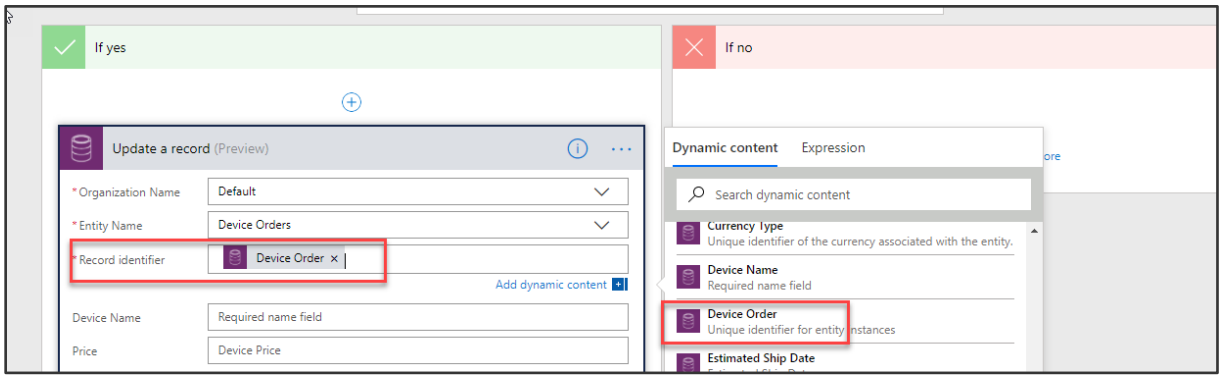
4. Select **Default** for **Organization Name**.



5. Select **Device Orders** for **Entity Name**.



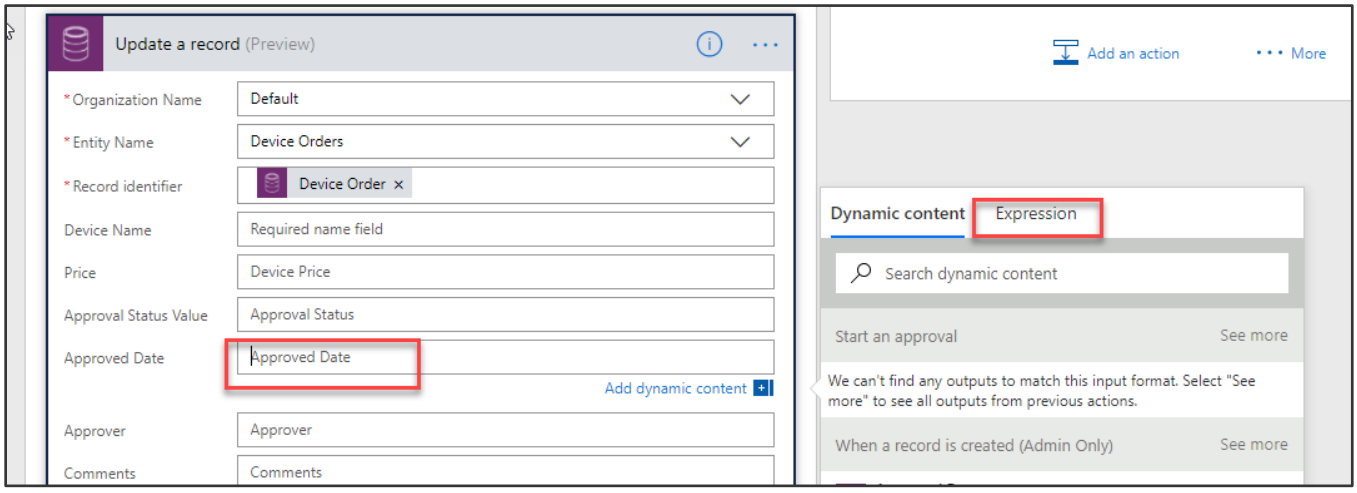
6. Select **Device Order** for **Record identifier.**



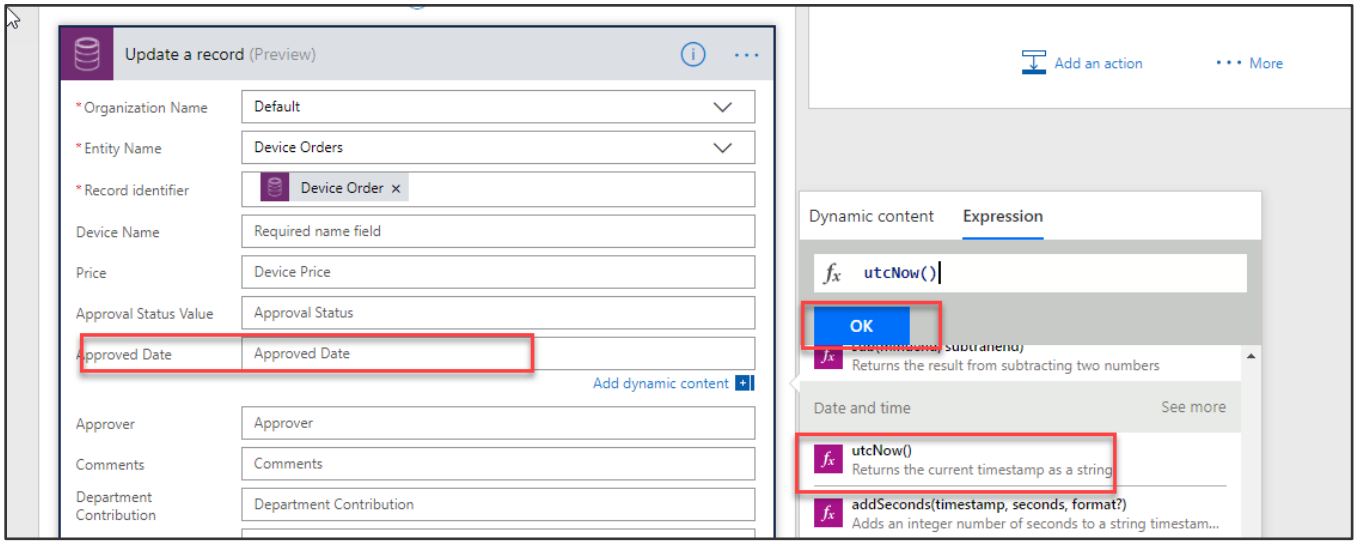
This is the unique lookup ID for the record that was created.

7. Click **Show advanced options** which can be found in blue text below the title field.
8. Select **Approve** from the **Approval Status Value** drop-down.

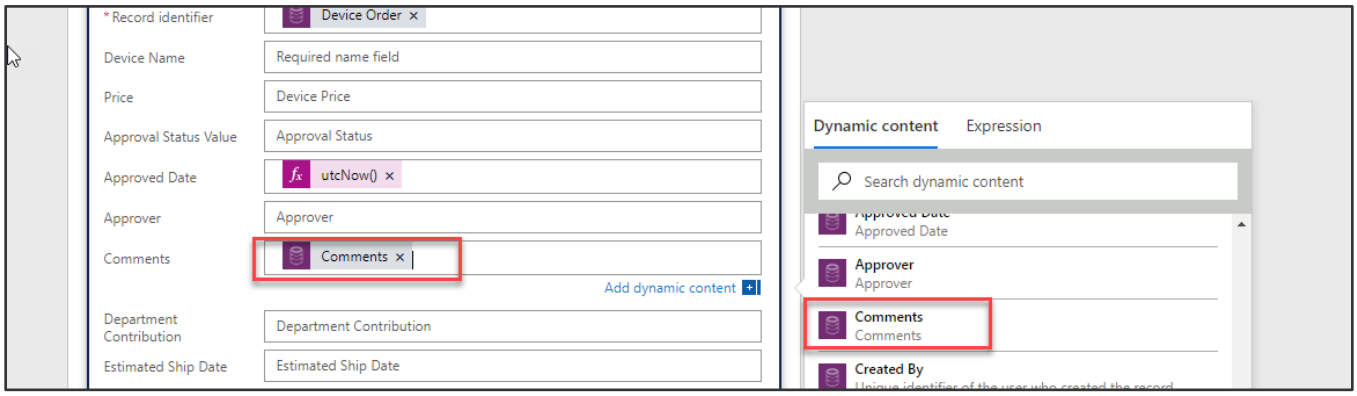
9. Select the **Approved Date** filed and select the **Expression** tab.



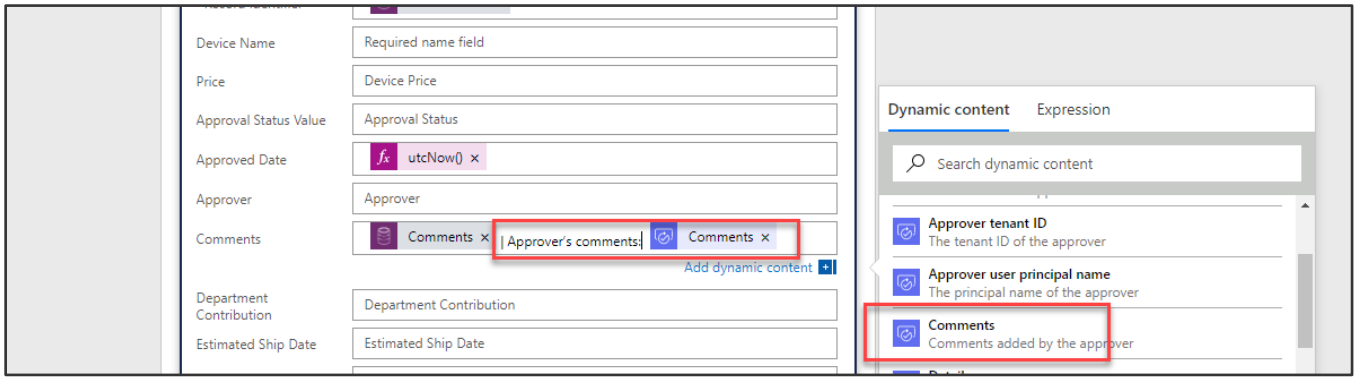
10. Select **utcNow()** and click **OK**.



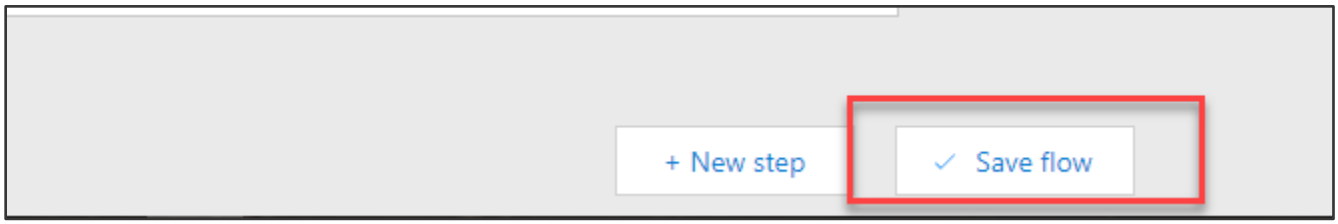
11. In the Comments field, we want to preserve the earlier comments and append on the comments from the approver. Select the **Comments** field and select **Comments**.



12. Type **| *Approver's comments:*** and select the Approver **Comments**.



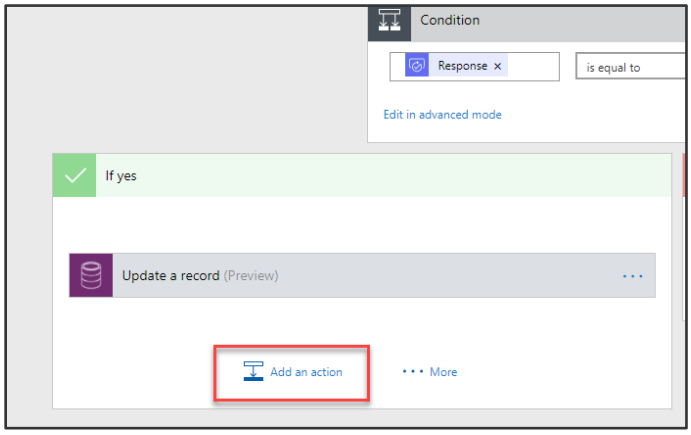
13. Save the flow.



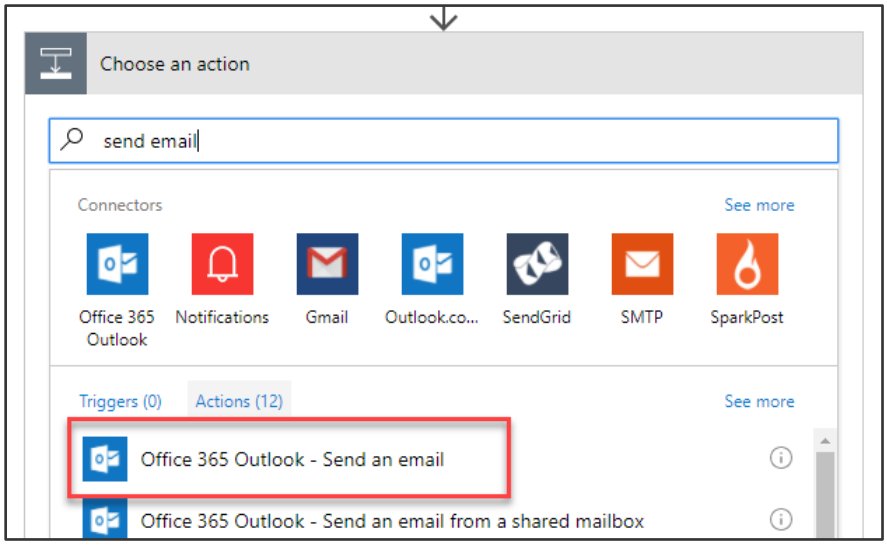
Task 3: Add another action

You will now add the send email action to the If Yes branch.

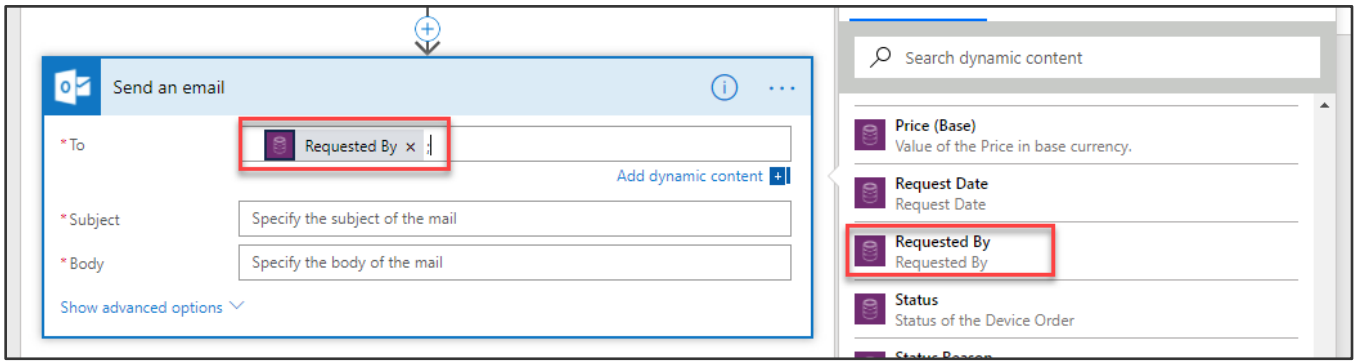
1. From within the yes branch, Click **Add an Action**.



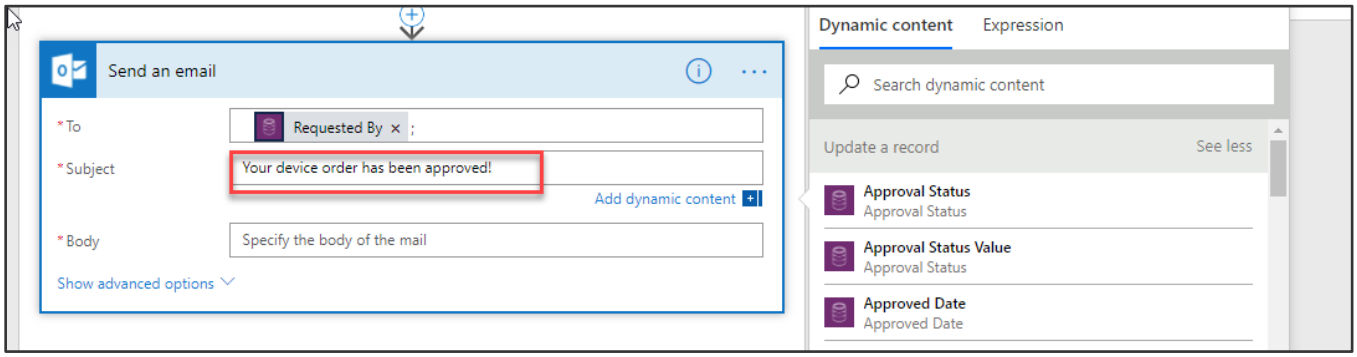
2. Search for **send email** and select **Office 365 Outlook - Send an email**.



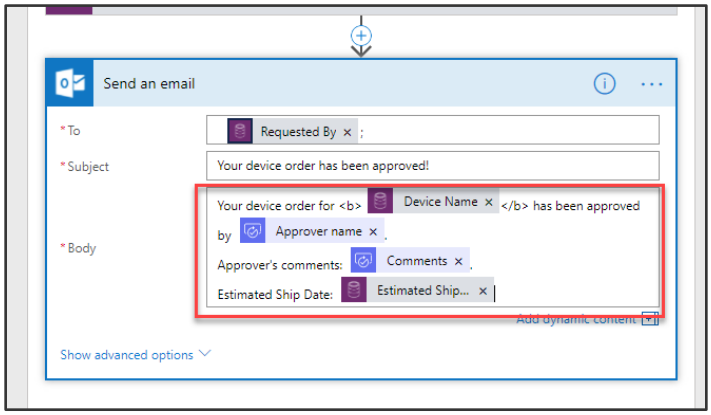
3. Select **Requested By** for **To.**



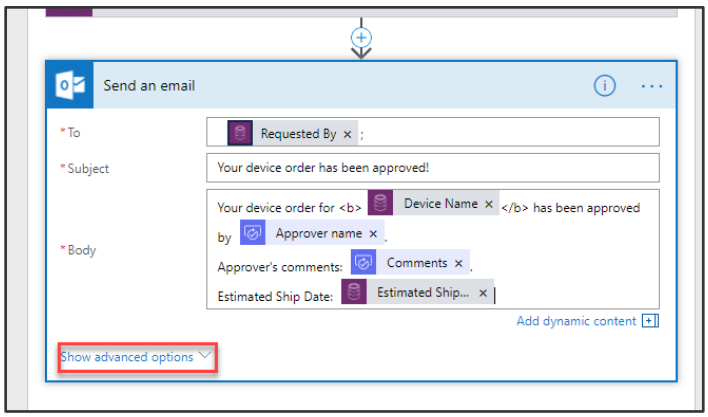
4. Type **Your device order has been approved!** for **Subject**.



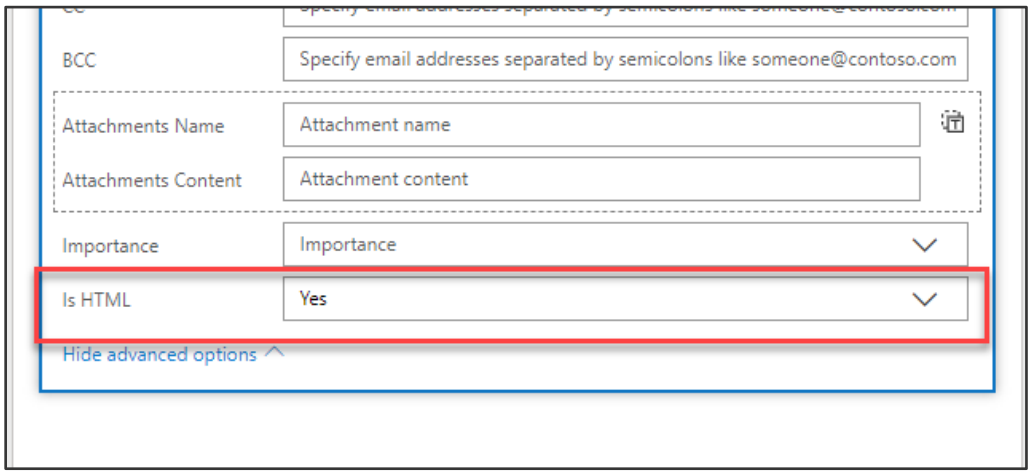
5. Set the Body value as shown below.



6. Click **Show advanced options**.

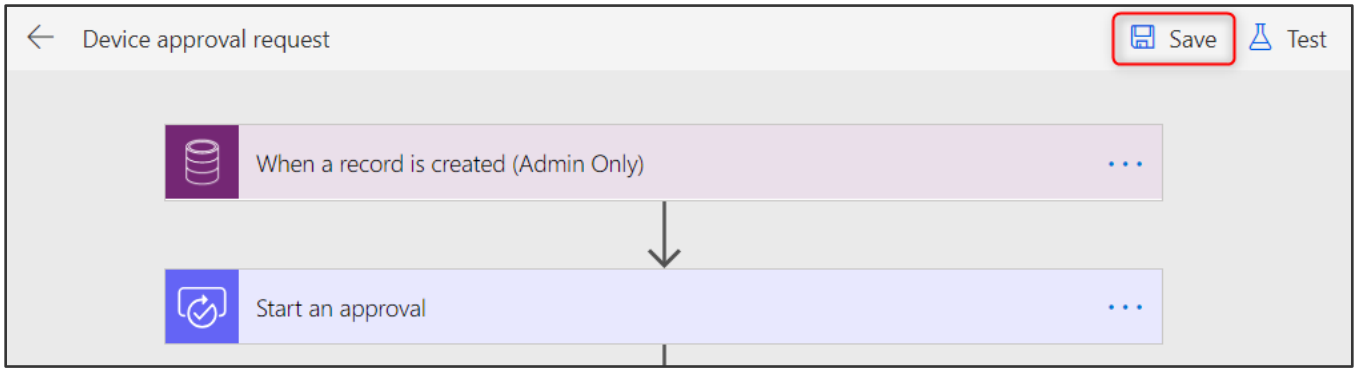


7. Set **Is HTML** to **Yes**.



***Note**: If you do not have an Office 365 mailbox setup, you can use one of the other connectors to send the email, such as Outlook.com, Gmail or SendGrid.*

8. Click **Save**.



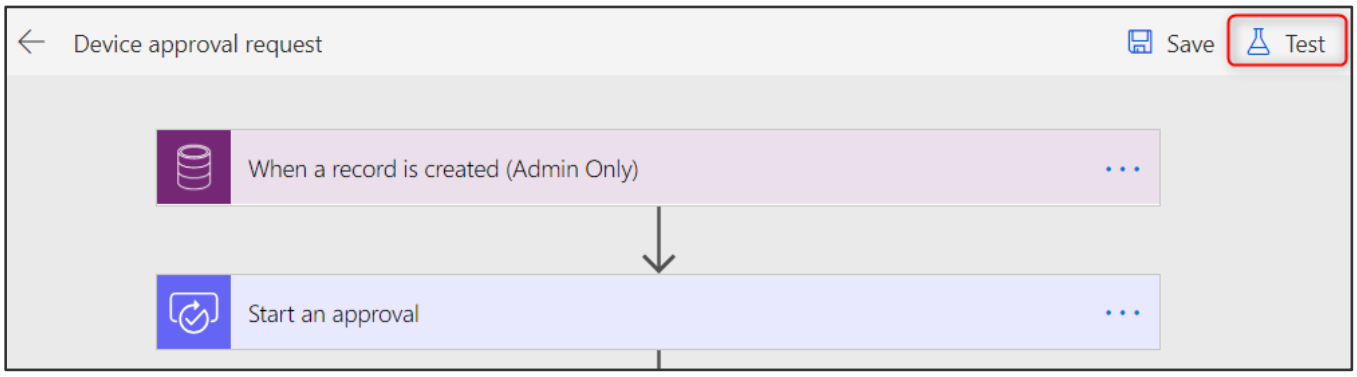
Exercise 3: Test the Flow

To test the flow, you will:

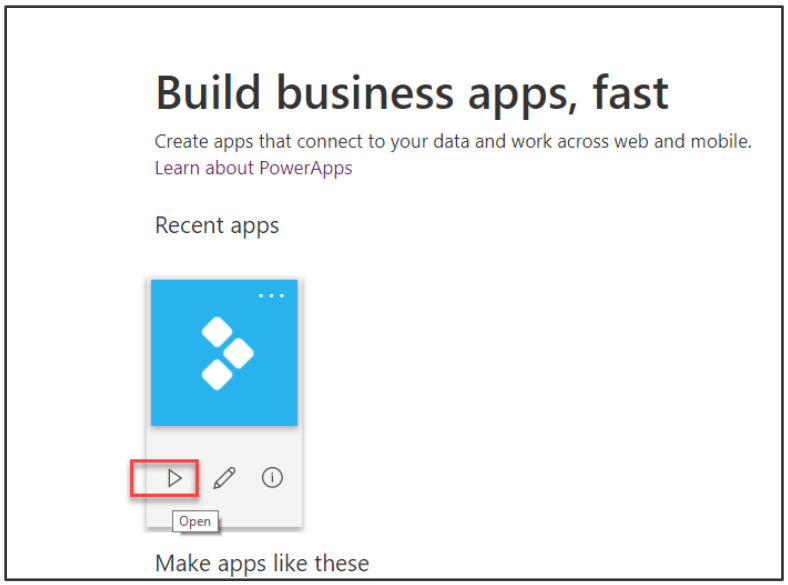
a. Run the Device Ordering app and submit an approval request
b. Verify the request was sent to the approver
c. Approve the request
d. Verify that the Common Data Service record was updated, and an email was sent back to the requestor

Task 1: Test the Flow

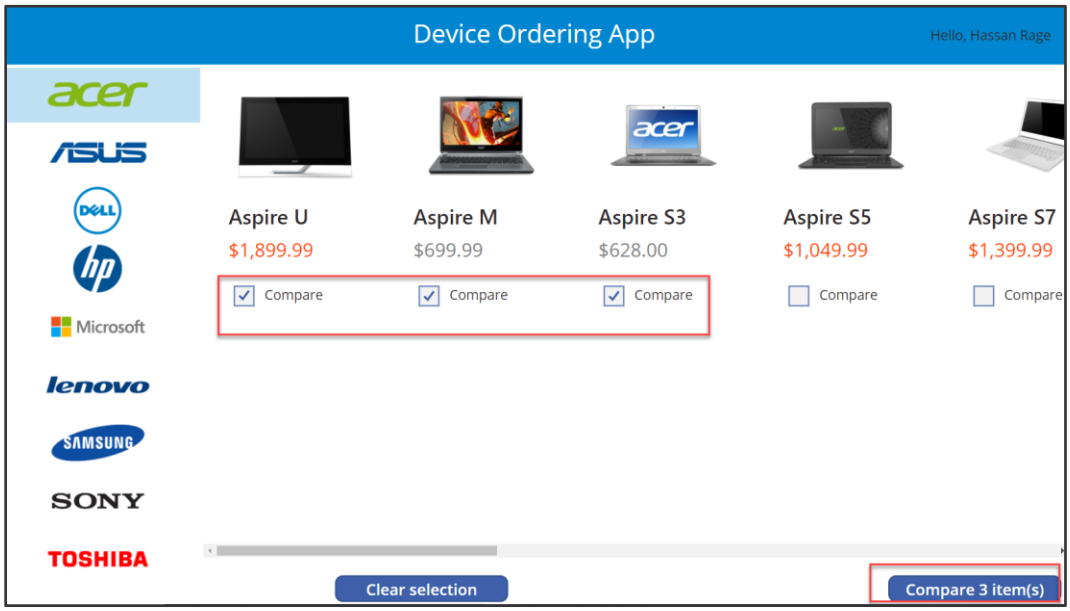
Note: When a new device record is added to the Device Order entity in CDS, it may take up to ten minutes for the flow to trigger. To ensure the flow runs immediately, select the **Test** option in the top right and select the **"I'll perform the trigger action"** option. Then go ahead and submit a device request. The flow should run immediately.



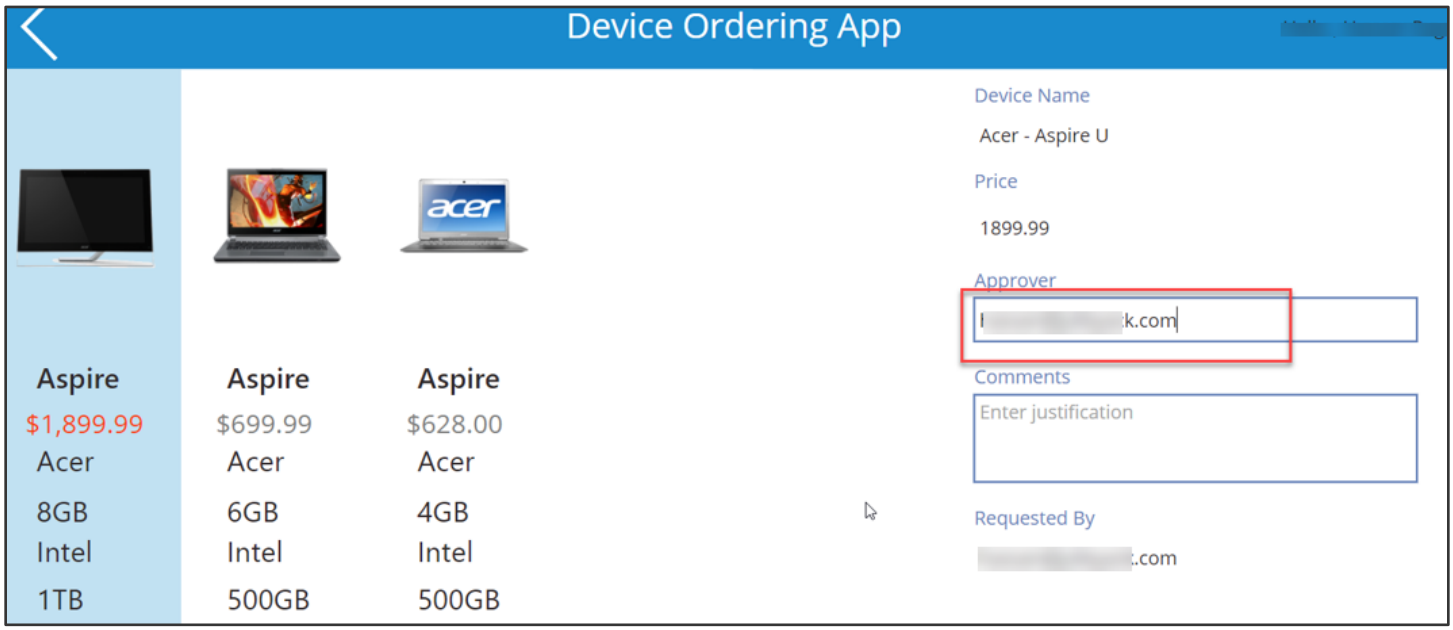
1. To submit a device request, go to http://web.powerapps.com and run the Device Ordering App.



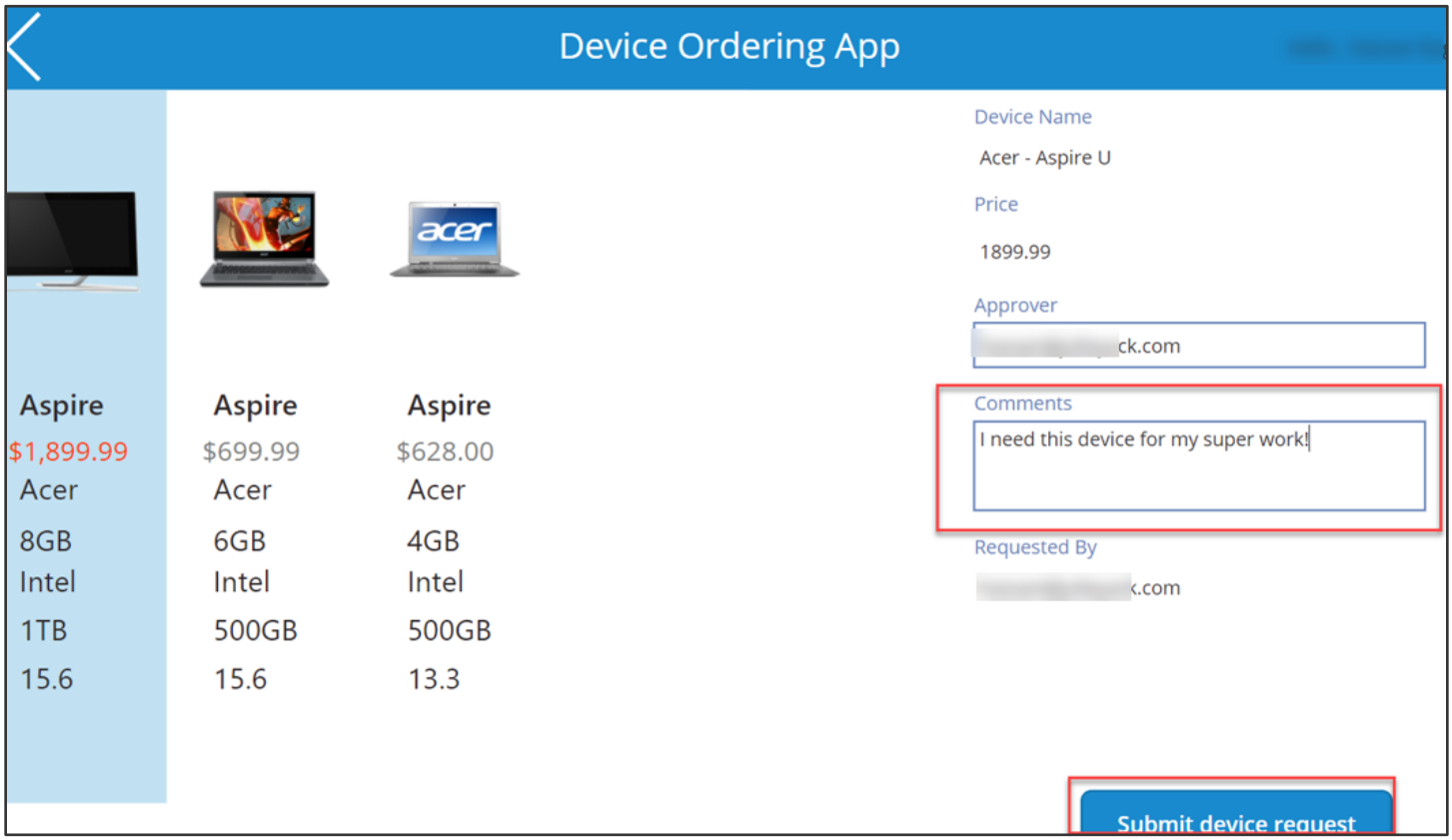
2. Select a few devices and click Compare.



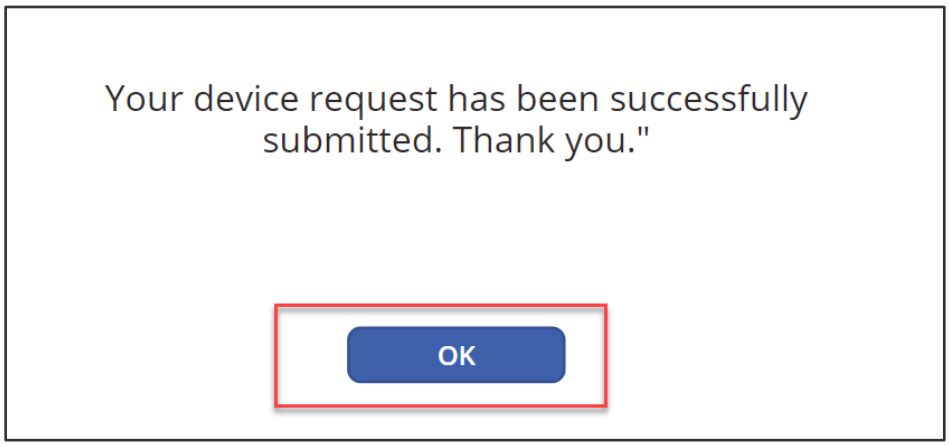
3. Select one of the devices, provide email for Approver.



4. Provide a comment and click Submit device request.

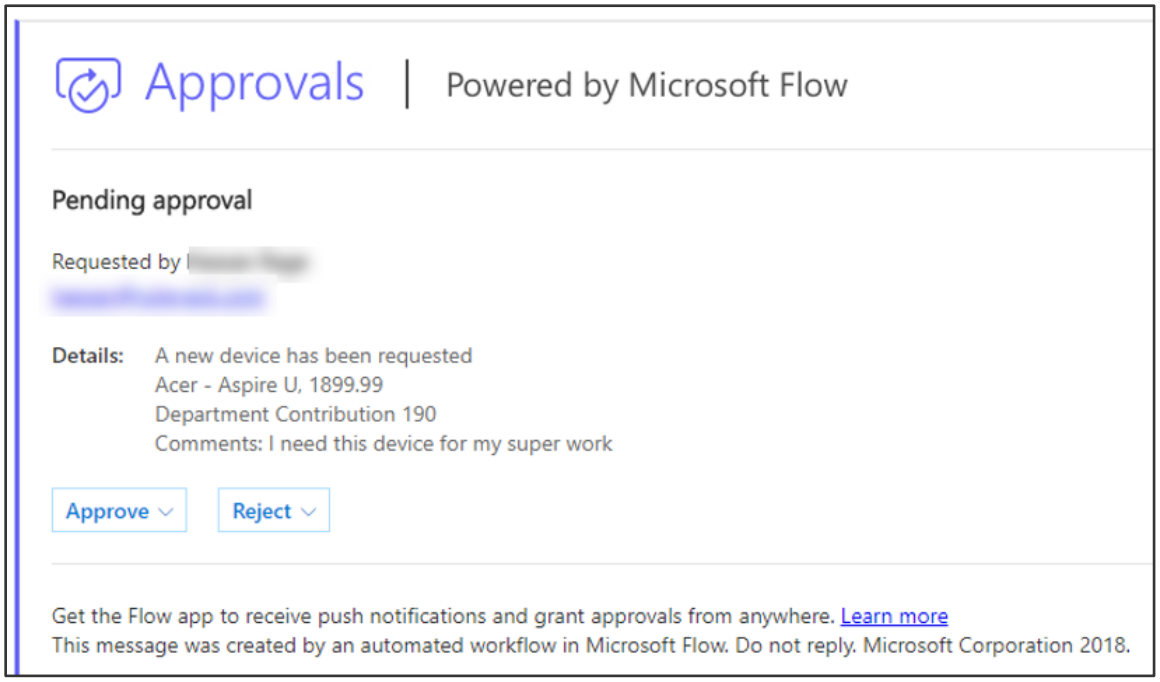


5. Click OK.

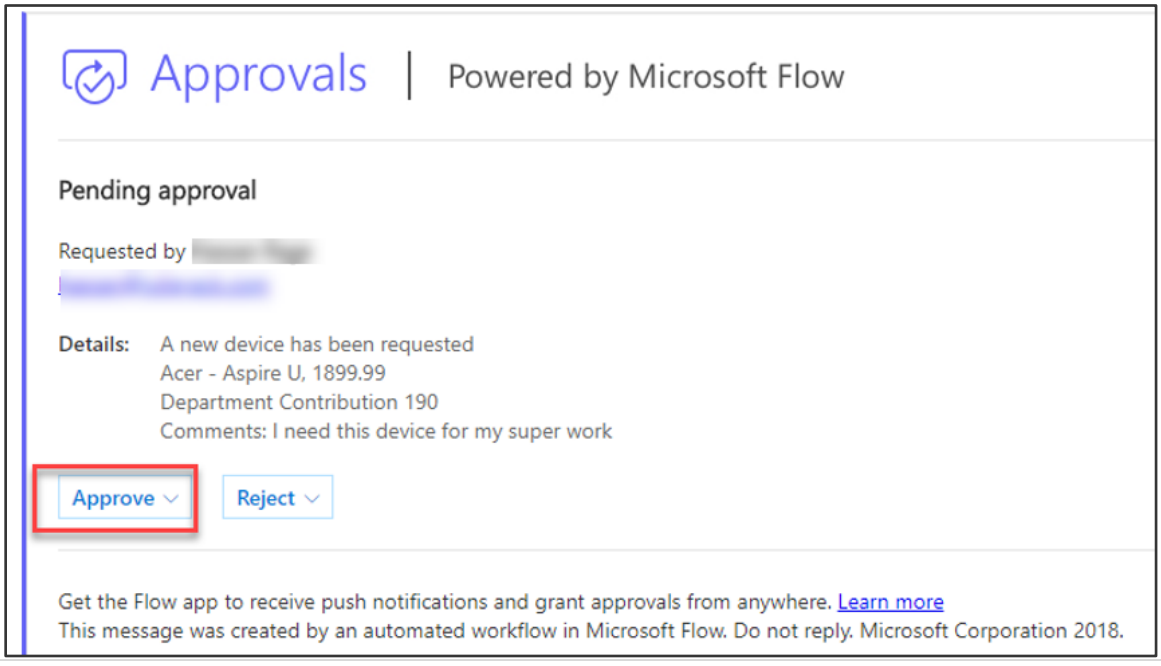


6. The flow will run and send email to the manager email you provided. The request for approval email will look like the image below; it will include **Device information**, **Price**, **Department Contribution (the calculated field),** and the **Requester Comment**.

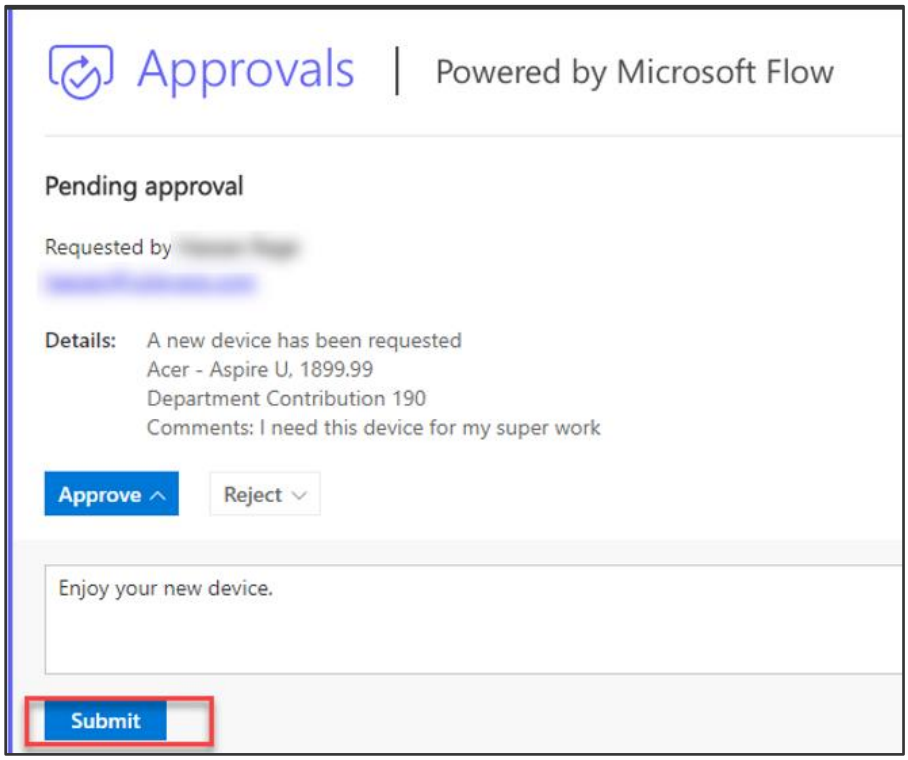
   REMINDER: If the flow does not run immediately, please wait, it may take up to ten minutes for the flow to be triggered. To ensure the flow runs immediately, see note above - select the **Test** option in the top right and select the "I'll perform the trigger action" option. Then go ahead and submit a device request. The flow should run immediately.



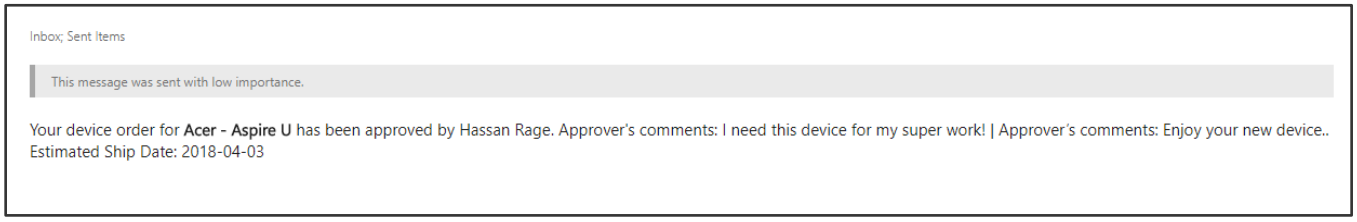
7. Click **Approve**.



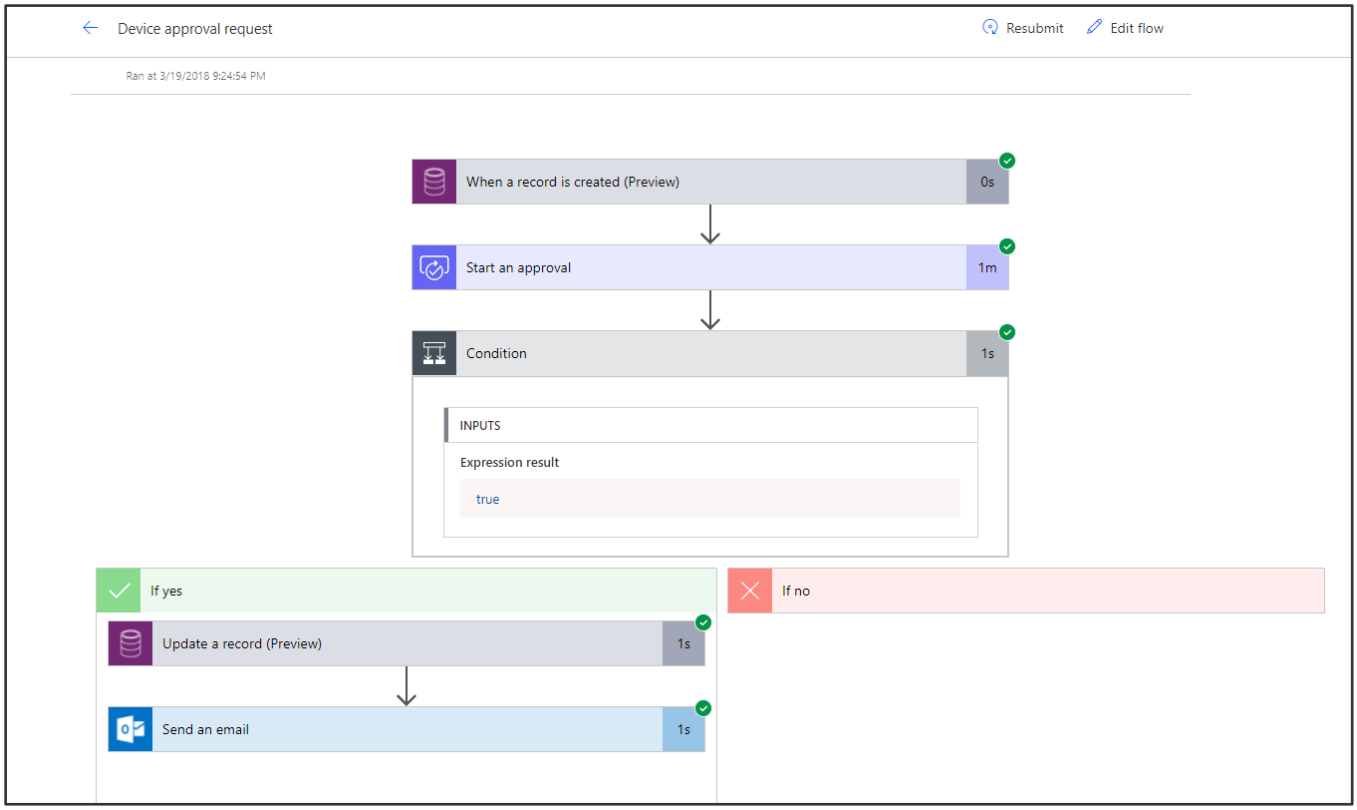
8. Add a comment and click **Submit**.



9. The flow will continue to run; it will update the record and send an email to the requestor. The email sent to the requester will look like the image below.



10. Check the flow dashboard; you will notice that the flow is now marked as **Succeeded** in the run history.

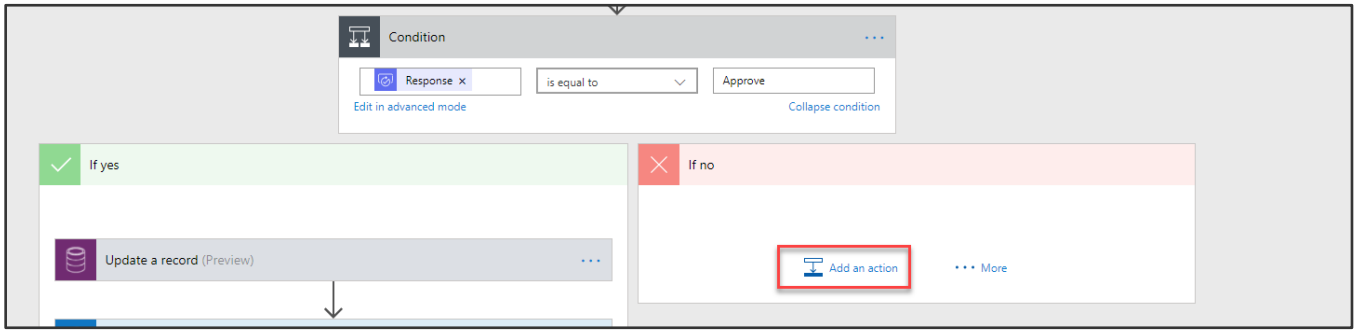

Device approval request
Resubmit
Edit flow
Ran at 3/19/2018 9:24:54 PM
When a record is created (Preview)
0s
Start an approval
1m
Condition
1s
INPUTS
Expression result
true
If yes
Update a record (Preview)
1s
Send an email
1s
If no

Exercise 4: Update the Flow

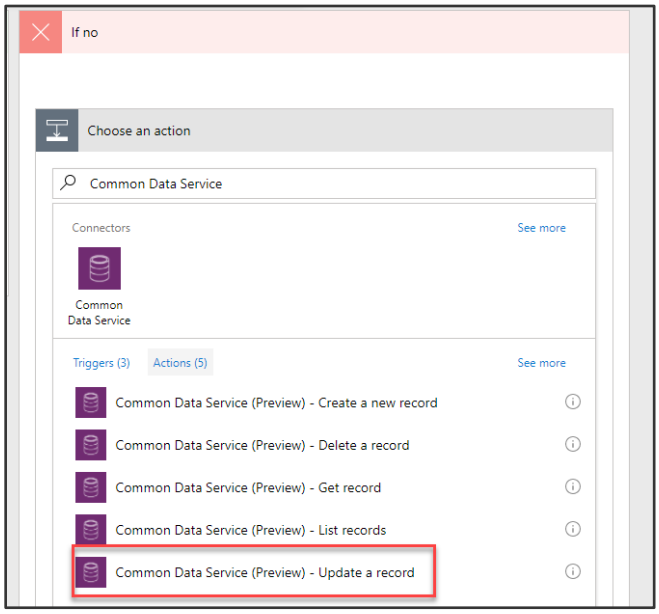
In this exercise, you will add two actions to the "if no" branch.

Task 1: Add actions

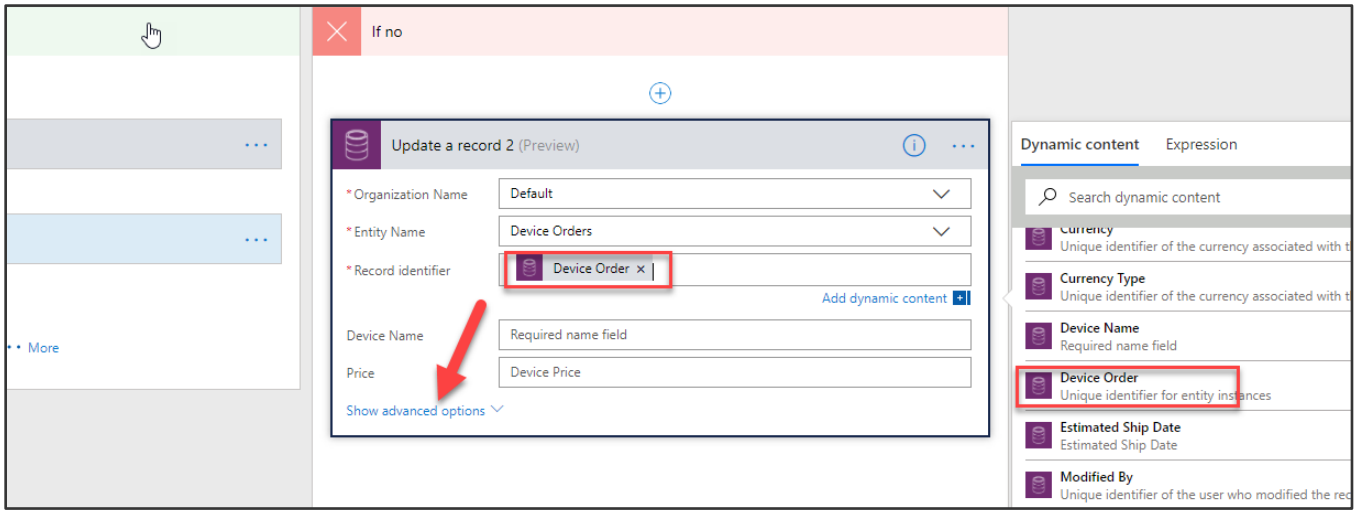
1. If you don't already have the flow open, open it in edit mode.
2. In the If no branch, click **Add an action**.



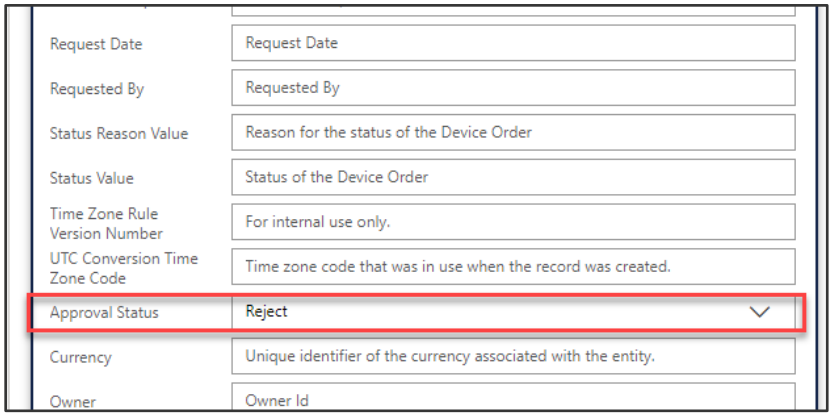
3. Search for **Common Data Service** and select **Common Data Service – Update a record**.



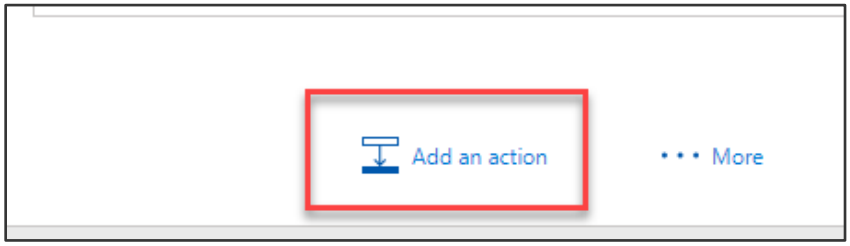
4. Select **Default** for **Organization Name**, **Device Orders** for **Entity Name**, select **Device Order** for **Record Identifier**, and click **Show advanced options**



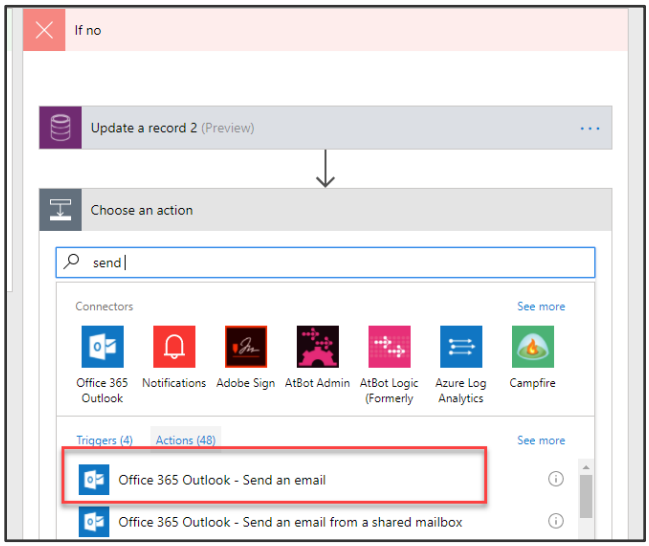
5. Select **Reject** for **Approval Status** value.



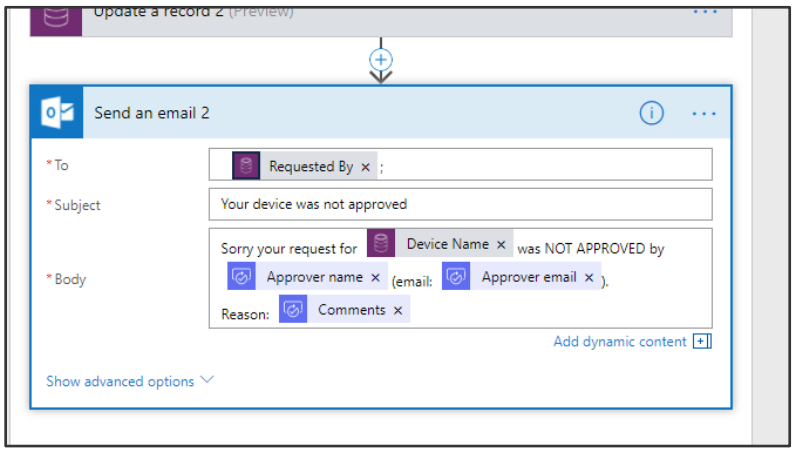
6. Click **Add an action**.



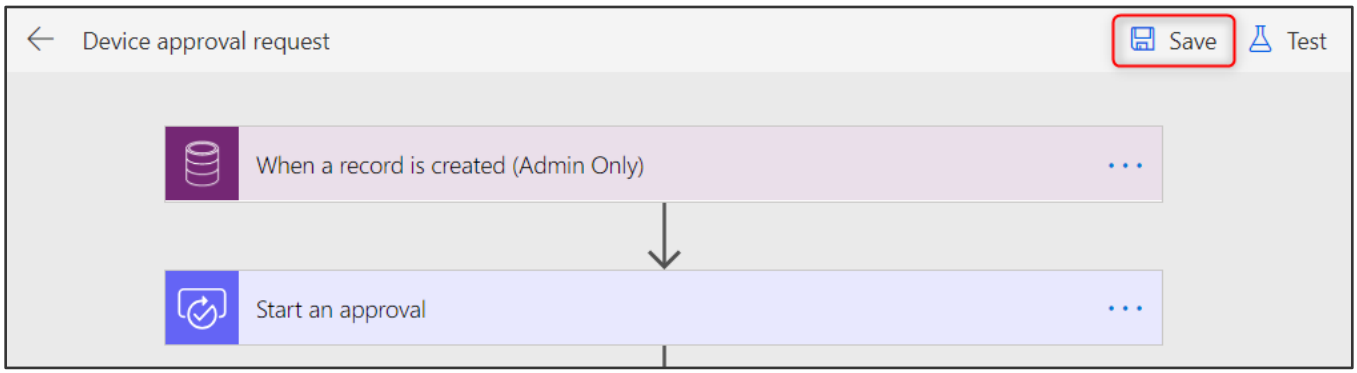
7. Search for ***send email*** and select **Office 365 Outlook Send an email**.



8. Provide the information shown on the image below. This will send an email to the requestor informing them that their device request was not approved.

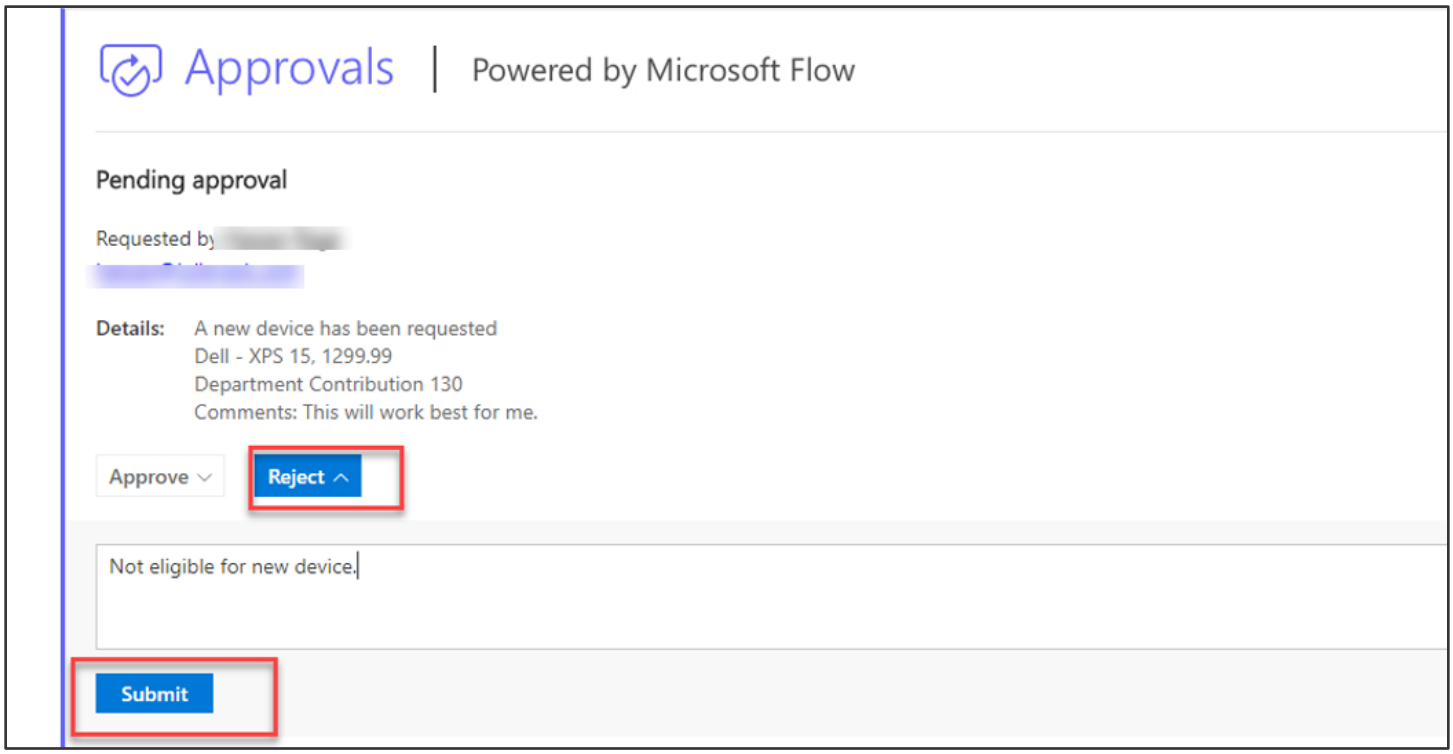


9. **Save** the flow.

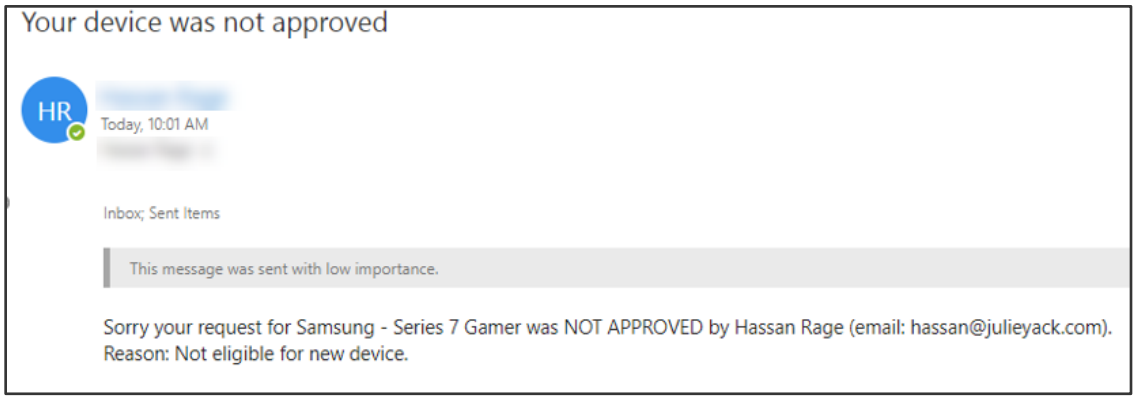


Task 2: Test the updated Flow

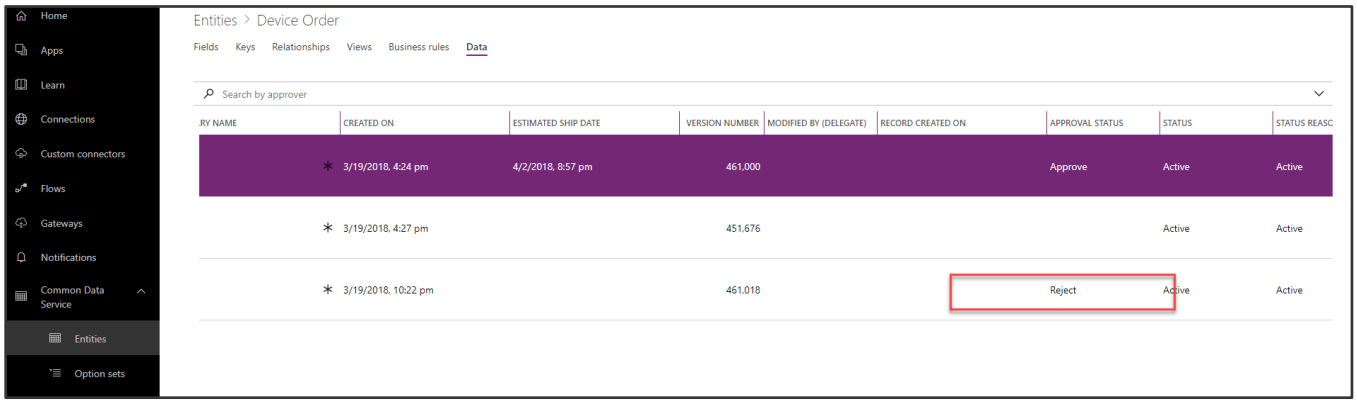
1. Click **Test** in the top right of the flow editor.
2. Run the Device Ordering app -> Select a device and submit an approval request.
3. You should receive an email with options to Approve or Reject the request. Select **Reject** this time and enter some comments, such as "Not eligible for new device." Click Submit.



4. Confirm that the requestor receives an email informing them that their device approval request was rejected.

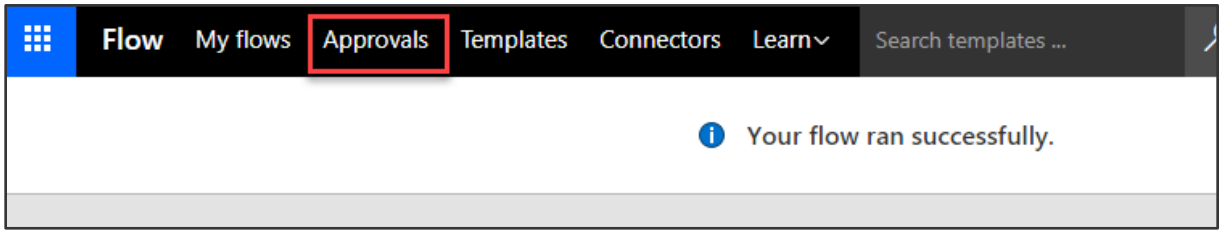


5. Navigate to https://web.powerapps.com select Device Order entity and a confirm that the **Device Order** entity record in the Common Data Service is updated with **Approval Status** set to **Rejected**.

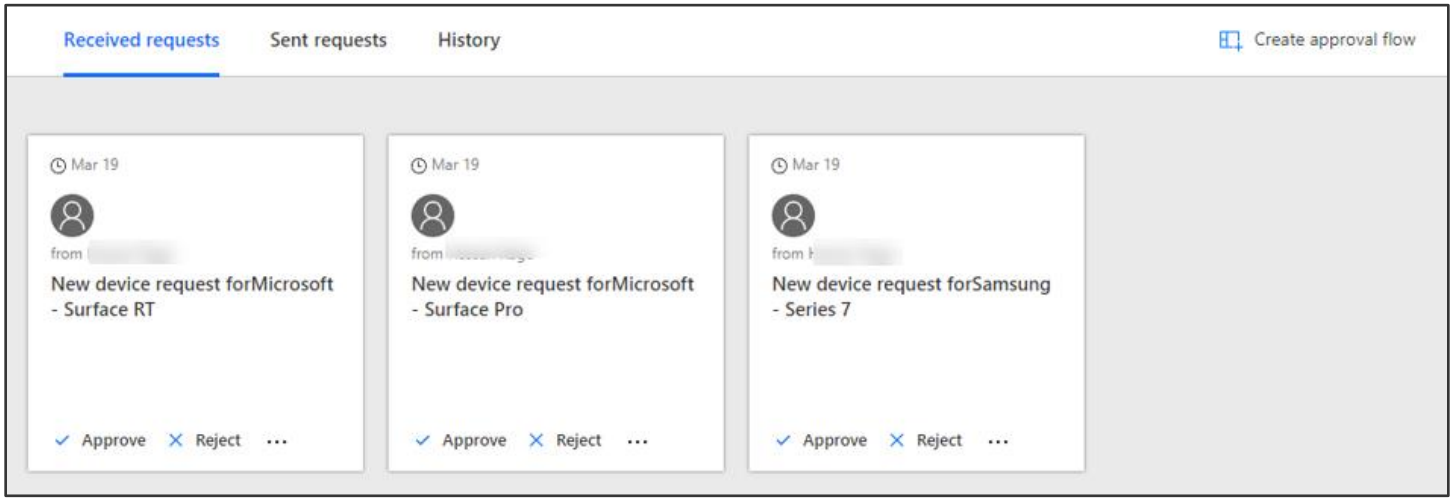


Task 3: Visit the approval center

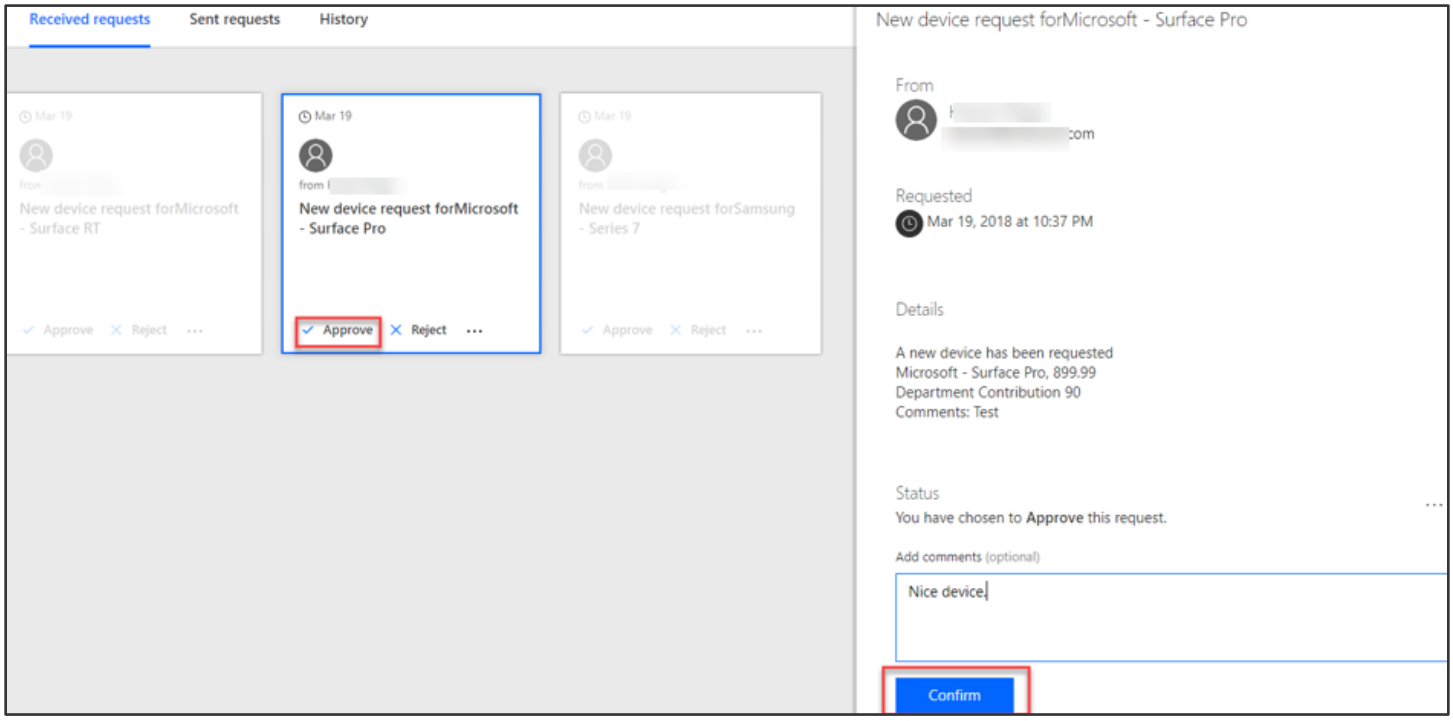
1. Use the Device Ordering app to **submit a few more approval requests**.
2. Go back to flow and select Approvals.



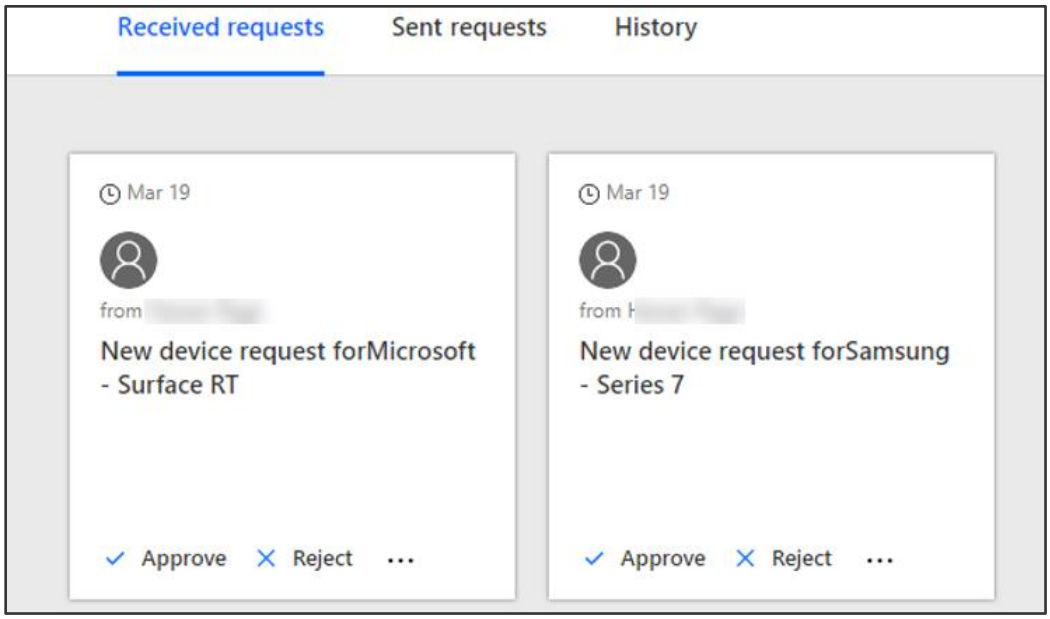
6. Notice that all pending approval requests are visible.



7. Go ahead and approve or reject a request from this screen. The details are displayed in the right pane where you can **enter comments** and **Confirm**.

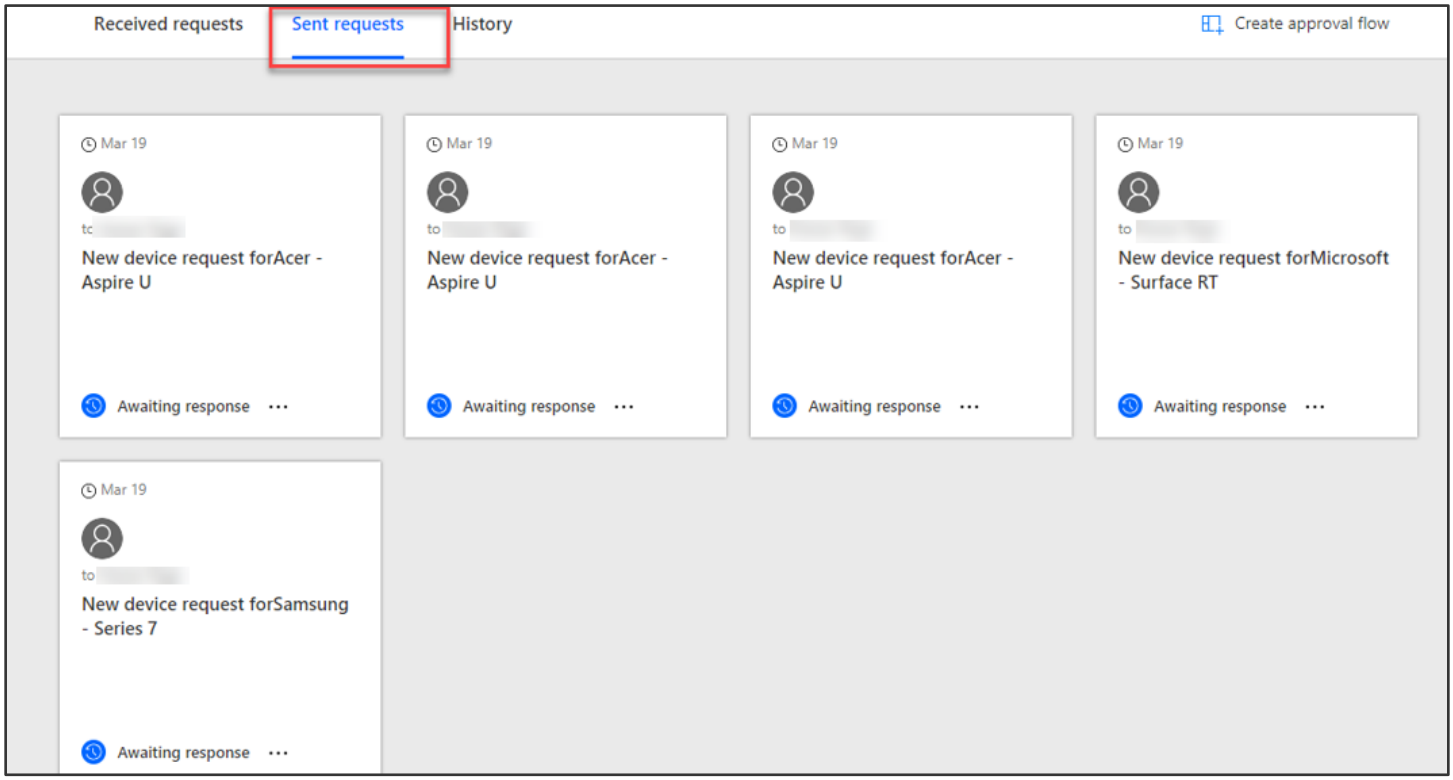


8. The request will no longer be visible as it has been processed.



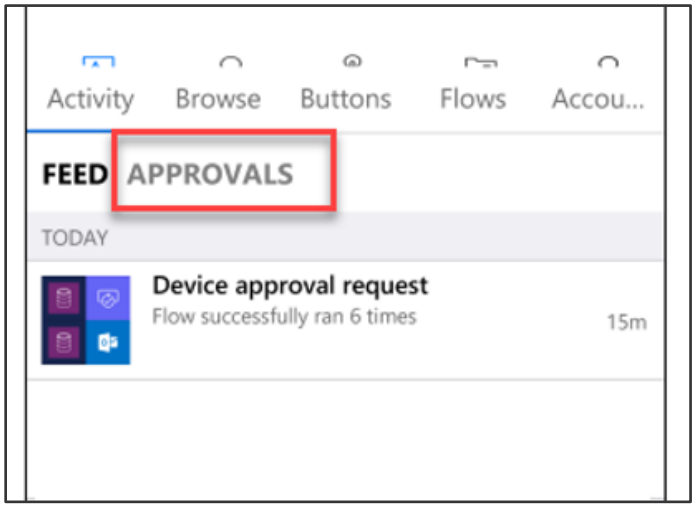
***Note**: All approval requests sent to the current logged on user will be visible in the Approvals Center. This includes approvals sent from any app or flow.*

9. You can also use the Approvals Center to view all requests that you have sent and are **Awaiting response** from the approver. Select the **Sent requests** tab at the top to view all requests that you have sent.

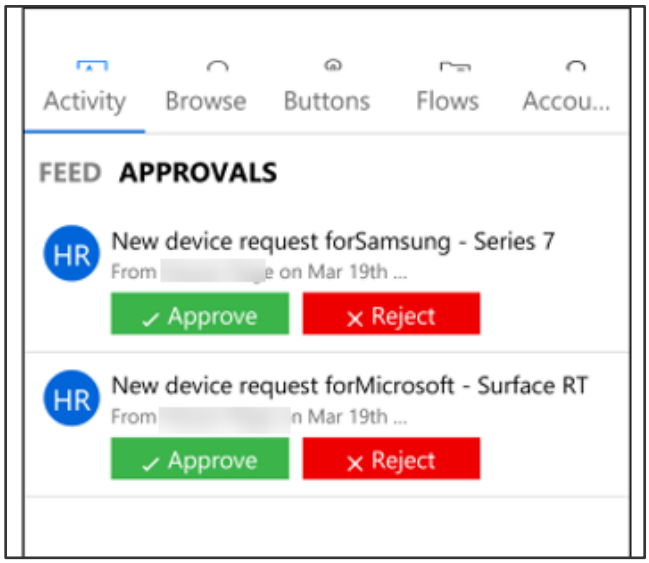


10. Open the **Microsoft Flow mobile app** on your mobile device.
11. Login and switch to the environment where the flow is deployed.

12. Select **Approvals** in the top right and view all pending approvals.



13. You can quickly approve or reject these pending requests from this screen.



14. If you have push notifications turned on and are signed into the Flow mobile app – when you receive a new Approval request it will trigger a push notification on your phone. You can give this a shot.

Congratulations! You have successfully completed this lab. You have created your PowerApps app and flow and connected them to a Common Data Service entity. Now you are ready to build your own apps and workflows.

Lab survey

We would appreciate your feedback on the Business Application Platform technologies and on this hands-on-lab, such as the quality of documentation and the usefulness of the learning experience.

Please use the survey at **http://aka.ms/appinadayLabSurvey** to share your feedback.

You may provide feedback for each module as you complete it or at the end once you've completed all the modules. Thank you!

References

App in a Day introduces some of the key functionalities available in PowerApps, Microsoft Flow, Power BI and the Common Data Service. For an up to date list of learning references, see http://aka.ms/powerapps-resources and http://aka.ms/flow-resources and http://powerbi.com.

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DISCLAIMER

This demo/lab contains only a portion of new features and enhancements in Microsoft PowerApps. Some of the features might change in future releases of the product. In this demo/lab, you will learn about some, but not all, new features.